The Speech-Language Pathologist’s Role in Geriatric Care

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What is a Speech and Language Pathologist?

- There is more to us than only speech and language.
- We also evaluate, treat, and prevent:
  - cognitive-communication
  - voice
  - oropharyngeal swallowing disorders
Overview

- Swallowing
- Language
- Speech
- Cognitive-Communication
- Voice
Consults to Speech-Language Pathology

- Driven by physician and/or at the suggestion of other members of the healthcare team
  - Nurses
  - Dietician
  - OT/PT
  - Psychologist
  - Social worker
  - Family members
Swallowing is...

- a dynamic process that involves coordinated effort of sequencing tubes with the assistance of valves.
- driven by proper sequencing of openings and valves.

Any interruption during this process may lead to dysphagia (difficulty swallowing).
Signs and Symptoms of Dysphagia

- Coughing before, during, or after a swallow
- Multiple swallows per bolus
- Food remaining in the mouth after swallowing
- Wet gurgly vocal quality
- Nasal regurgitation of food/liquid
- Frequent throat clearing
- Choking
- Complaints of food sticking or lump in throat
- Undesired weight loss
- Drooling
- Fatigue when eating/drinking
- Effortful chewing/swallowing
- Inability to handle own secretions
Assessment and Management of Swallowing

- Assess for potential oral intake
- Determine method of oral intake
- Select appropriate diet consistency
- Specify aspiration risk
- Determine candidacy for rehabilitative or compensatory intervention
Assessment of Swallowing

- Clinical Swallow Examination
  - Assess structure and function of lips, tongue, and palate
  - Palpation of swallow through administration of multiple consistencies
  - Determine clinical signs of aspiration and need for further assessment
Assessment of Swallowing

- Modified Barium Swallow Study
  - A videofluoroscopic study of the oropharyngeal swallow.
  - Designed to identify swallow anatomy and physiology.
  - Define effectiveness of interventions to improve swallow safety and efficiency.
MBS A-P View
Assessment of Swallowing

- Flexible Endoscopic Evaluation of Swallowing (FEES)
- A flexible fiberoptic endoscope is inserted into the throat in order to visualize the actual swallow in progress.
- Patient is fed foods of varying consistencies colored with food dye
- Allows the examiners to directly observe the movement of the food from the back of the mouth through the throat, and into the esophagus
Assessment of Swallowing
Normal Aging Changes

- Poor dentition
- Reduced smell
- Reduced taste
- Duration of swallow increases
  - Slightly prolonged oral and pharyngeal transit time
- Tongue pressure declines
- Slight increase in oral or pharyngeal residue
- Increased frequency of penetration (not aspiration)
- Slightly decreased laryngeal motion
- Reduced tone in pharynx
- Reduced flexibility of cricopharyngeal opening
- Reduced esophageal motility
- Degenerative osteophytes

*Do not necessarily lead to a dysphagia*
Dysphagia

- Dysphagia in the elderly….
  - Is commonly seen in dementia, stroke, progressive neurological diseases, immunodeficiency, frailty
  - Increases risk for malnutrition, dehydration, and infection
Importance of Oral Hygiene

- Proper oral hygiene controls microbial and other deposits in the oral cavity.
- Poor hygiene is a prime contributor to pneumonia
  - Dental plaque consists of approximately 90% bacteria
  - Frail and immunocompromised are more susceptible to inhaling these potentially deadly pathogens, particularly if they have a dysphagia
Eight Standards of Administering Oral Care

1. Use clean gloves
2. Assess mouth for problems
3. Brush teeth with toothbrush
4. Brush for at least 2 minutes
5. Brush tongue
6. Rinse mouth with water
7. Use mouthwash
8. Floss
Mr. and Mrs. Pereza

- Any concerns with swallowing?
Mr. Pereza

- No
- Well nourished

No mention of him having dentures. If he did,
  - Do they fit well? Able to chew well with it on?
  - Does he clean it daily?

Appears to be swallowing pills without difficulty. If he had problems,
  - Take one pill at a time.
  - Use applesauce or pudding
Mrs. Pereza

- No
Aphasia

- Occurs when there is damage to the language centers of the brain
- May affect:
  - Expressive language (speaking)
  - Receptive language (comprehension)
  - Reading
  - Writing
Functional Control Areas of the Brain

- **Frontal Lobe**
  - Ability to concentrate and attend, elaboration of thought learning and behavior including: intellect, abstract reasoning, problem solving, judgment, sequencing, planning, concentration
  - Controls emotional response, expressive language, word associations, and memory for habits and motor activities

- **Occipital Lobe**
  - Primary visual reception area
Functional Control Areas of the Brain

- **Parietal Lobe**
  - Location for visual attention, touch perception, goal directed voluntary movements, manipulation of objects
  - Integration of different senses that allows for understanding a single concept

- **Temporal Lobe**
  - Hearing ability, memory acquisition, some visual perceptions, visual memory
  - Categorization of objects, intellect
  - Sense of identity, behavior and emotions, including fear
  - Long term memory
Functional Control Areas of the Brain

- **Brain Stem**
  - Breathing, heart rate, swallowing, reflexes to seeing and hearing, startle response, controls sweating, blood pressure, digestion, temperature
  - Affects level of alertness, ability to sleep and sense of balance

- **Cerebellum**
  - Regulation and coordination of movement, posture, and balance
  - Some memory for reflex motor acts
Characteristics of Expressive Aphasia

- Speaks only in single words
  - (i.e., “home” for “I want to go home.”)
- Speaks in short, fragmented phrases
  - (i.e., “Me go home.”)
- Omits smaller words (i.e., the, of, and)
  - (i.e., “Want go home.”)
- Puts words in wrong order
  - (i.e., “I go to want home.”)
Characteristics of Expressive Aphasia

- **Use of jargon (made up words)**
  - (i.e., “I want to go frip.”)

- **Semantic paraphasias**
  - (i.e., states “store” for “home”)

- **Phonemic paraphasias**
  - (i.e., states “dome” for “home”)

Characteristics of Receptive Aphasia

- Requires extra time to understand spoken language
- Difficulty following simple and/or complex commands
- Decreased abstract thinking; literal or concrete thinking
- Difficulty understanding and responding to questions
Characteristics of Reading and Writing

- Decreased ability to accurately read and/or write letters, words, phrases, sentences, and paragraphs
Aphasia

- Treatment dependent on:
  - Cause of brain injury
  - Area and extent of brain damage
  - Age
  - General health

- Treatment focuses on:
  - Teaching patient to make use of stronger language skills to compensate for weaker language skills
Aphasia Treatment

- Evidence-Based Review of Stroke Rehabilitation found the following to help improve language skills and functional communication
  - Providing phonemic and semantic cueing
  - Task-specific phonemic and semantic therapy
  - Computer-based treatment
  - Forced-use aphasia therapy
  - Therapy specific to alexia
Aphasia Treatment

- Use of augmentative and alternative communication (AAC) devices may be warranted when severe expressive language deficits are exhibited.
Low-Tech AAC Devices
High-Tech AAC Devices
Mr. and Mrs. Pereza

- Any concerns with language deficits?
Mr. Pereza

- No
- Has had two previous strokes
  - Did not affect language abilities
Mrs. Pereza

- No
Dysarthria

- Decreased ability to produce clear, understandable speech
- Refers to a group of speech disorders resulting from disturbances in muscular control over the speech mechanism
- Usually occurs after a stroke, other brain injury, or progressive neurological disease
Common Characteristics

- Shortness of breath
- Breathy voice
- Decreased loudness
- Muscle weakness of face, lips, and/or tongue
- Nasalness
- Monotone
- Drooling
- Strained or strangled voice
- Rapid rate of speech
Dysarthria Classification

- Flaccid
  - Site of Lesion
    - PNS or LMN
  - Neuromuscular Symptoms
    - Weakness
    - Lack of normal muscle tone
  - Perceptual Characteristics
    - Hypernasality
    - Imprecise consonant production
    - Breathiness
    - Nasal emission
Dysarthria Classification

- Spastic
  - Site of Lesion
    - Pyramidal and extrapyramidal
  - Neuromuscular Symptoms
    - Muscular weakness
    - Greater than normal muscle tone
  - Perceptual Characteristics
    - Imprecise consonants
    - Harsh vocal quality
    - Strained vocal quality
    - Hypernasality
Dysarthria Classification

- Ataxic
  - Site of Lesion
    - Cerebellum
  - Neuromuscular Symptoms
    - Inaccuracy of movement
    - Slowness of movement
  - Perceptual Characteristics
    - Imprecise consonants
    - Irregular articulatory breakdowns
    - Prolonged phonemes
    - Prolonged intervals
    - Slow rate
Dysarthria Classification

- Hypokinetic
  - Site of Lesion
    - Subcortical structures involving basal ganglia
  - Neuromuscular Symptoms
    - Slow movements
    - Limited range of movement
  - Perceptual Characteristics
    - Imprecise consonants
    - Hypophonia
    - Monopitch
    - Monoloudness
- Compulsive repetition of syllables
Dysarthria Classification

- Hyperkinetic
  - Site of Lesion
    - Subcortical structures involving basal ganglia
  - Neuromuscular symptoms
    - Quick, unsustained, involuntary movements
  - Perceptual Characteristics
    - Imprecise consonants
    - Effortful speech
    - Voice stoppages
    - Variable rate of speech
    - Prolonged phonemes
Dysarthria Classification

- Mixed
  - Combination of two or more of the pure dysarthrias
  - Example
    - ALS
      - Flaccid-Spastic Dysarthria
Management and Treatment

Treatment focuses on:

- Use of compensatory speech strategies:
  - Reduce speaking rate; pacing
  - Over-enunciate; open mouth
  - Improve breath support before speaking
  - Speak louder
  - Maintain proper posture
Management and Treatment

- Treatment focuses on:
  - Improving strength and range of motion
  - Restate or rephrase message when unsure
  - Be patient.
    - Allow patient to communicate.
    - Don’t talk for them.
  - In severe cases, use of an AAC device may be warranted
Apraxia of Speech

- Inability to program, sequence, and execute purposeful gestures either on command or in imitation
- No significant muscle weakness
- Automatic sequences and emotionally laden words may be preserved
Apraxia of Speech

- Treatment focuses on:
  - Repeatedly practicing the formation and pronunciation of sounds and words
  - Work with rhythms or melodies
  - Multisensory approaches
    - Modeling
    - Watching in a mirror
    - Touching face while speaking
Mr. and Mrs. Pereza

- Any concerns with speech?
Mr. Pereza

- Not at the moment, but...
- Second stroke caused left sided facial muscle weakness which led to slurred speech. This has since resolved.
- If he had any residual difficulties, work on reinforcing compensatory speech strategies
Mrs. Pereza

- No
Cognitive-Communication Deficits

- A disorder of communication that does not directly involve the “language system.”
- Usually refers to a dementia
- Progressive in nature; common in elderly
- Often irreversible
- Memory, impulse control, judgment, planning and reasoning may be impaired.
Common Characteristics

- Decreased word-recall skills
  - Uses nonspecific words (i.e., thing, stuff)
- Decreased abstract thinking
  - Thinks literal or concrete
- Requires extra time to respond to questions, statements, or commands
Common Characteristics

- Echolalia (repeats words and/or phrases)
- Decreased ability to understand and follow instructions
- Decreased grammar
  - May speak in incomplete sentences or phrases
- Neologisms (use of made-up or nonwords)
Common Characteristics

- Decreased memory for recent and/or remote events
- Decreased ability to learn and remember new things
- Exaggerated personality traits or changes
- Disorientation to person, place, or time
Common Characteristics

- Increased distractibility
- Increased restlessness
- Delusions
- Exhibits fear of being abandoned
Management and Treatment

- Make a memory book with pictures and/or simple sentences
  - Helps stimulate existing long-term memory skills and communication
- Create a safe and helpful environment
  - Visual aids, decrease clutter, decrease noise, increase amount of light
Management and Treatment

- Keep messages simple and short; repeat as necessary
- Give one-step commands
- Keep routines consistent
- Provide choices when asking questions
  - Limit use of questions if uncooperative; use simple statements instead
Mr. and Mrs. Pereza

- Any concerns with cognitive-communication?
Mr. Pereza

- Not necessarily, but…
- Wife states husband is forgetful with dates and numbers
- Information needs to be repeated
  - Recent hearing test?
- Wife organizes pills
- Wife prepares meals and helps him get dressed
Mr. Pereza

- Physical Exam
  - Oriented to person, place, and time
  - Able to do serial 7’s
  - Knows name of President
- May suggest that he engage himself in daily puzzles
Mrs. Pereza

- No
Aging Voice

- Perceptual Changes
  - Softer/weaker
  - Hoarseness
  - Breathiness
  - Shakiness
  - Alteration in pitch
Pulmonary Changes

- Decrease in breath support
  - Decrease in pulmonary function
  - May require more frequent breaths (vocal fatigue)
  - Voice may become weaker
  - Voice may become strained if compensating to prevent loss of air
Laryngeal Changes

- Ossification of cartilages and joints
  - May lead to increased stiffness of the larynx

- Atrophy of vocal folds
  - May lead to bowing of vocal folds
Gender Changes

- **Males**
  - Vocal folds become thinner and atrophied resulting in an increased pitch (~ +30 Hz)

- **Females**
  - Vocal folds become thickened with an increase in the vibratory mass resulting in a decreased pitch (~ -30 Hz)
Aging Voice

- Most voice problems in older adults are not related to advancing age, but due to pathologic conditions, such as:
  - Infections
  - Inflammatory and autoimmune diseases
  - Neoplasms
  - Intubation
  - Degenerative neurologic disorders
  - Vocal fold paralysis
  - Functional voice disorders
Dysphonia, usually on the milder side, with absence of pathologic conditions is known as presbyphonia
Voice Evaluation

- An otolaryngologist needs to diagnose the vocal pathology first prior to any treatment.
- Speech-language pathologist describes the function and impact on voice.
Voice Evaluation
Healthy Vocal Folds
Management and Treatment

- If due to pathologic condition, treat the underlying cause.
- If not, the larynx is usually able to compensate well for the laryngeal changes.
- However if the voice is significantly affected, voice therapy may be warranted:
  - Vocal hygiene counseling
  - Improve respiratory efficiency
  - Improve glottal adduction during phonation
Mr. and Mrs. Pereza

- Any concerns with voicing?
Mr. Pereza

- No
Mrs. Pereza

- No


