Spastic Dysarthria vs. Spasmodic Dysphonia

Symptoms, Treatment, and Differential Diagnosis

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Spastic Dysarthria

- Caused by bilateral damage to UMN
  - Degenerative disease, vascular causes, TBI, unknown
- Hypertonia, hyperreflexia, spasticity, neuropathic reflexes
- Speech: slow, effortful, may be hypernasal, imprecise artic., hoarseness, strain-strangle, monopitch/pitch breaks, short phrases, monoloud

(Duffy 2005)
Spasmodic Dysphonia

- **Cause:** probably supranuclear (once thought psychogenic)

- **AD type**
  - VF's spasm shut
  - Vocal strain, voice blocks

- **AB type**
  - VF's spasm open
  - Breathy voice, aphonic moments
  - Worse during unvoiced consonants

- **TASK SPECIFIC!** Symptoms only occur during connected speech

Diagnosing motor-speech disorders based on voice production and quality

- Darley, Aronson Brown
  - showed each type of dysarthria manifests “clinically distinguishable auditory-perceptual characteristics.” (Duffy & Kent, 2001)

- Voice features correspond to physiology
  (shown by DAB in original tests of validity of their methods but cross-validation using modern imaging techniques in order)

- Birth of the SLP as diagnostician!
Acoustic-perceptual analysis

A tool developed by DAB to guide listening to the features of a patient’s speech
- Created a rating scale: 38 perceptual features
  (newer examples: GRBAS scale: Grade, Roughness, Breathiness, Asthenia, Strain; CAPE-V: Consensus Auditory Perceptual Evaluation–Voice)

- Advantages:
  - Requires only a trained ear
  - After some debate has been shown to be effective, even in novice clinicians (Bunton, et al. 2007)

- Disadvantages:
  - Subjective
  - Efficacy debated in the research
  - Thorough training required
Other assessment tools

- Acoustic analysis
  - ex. Visi-pitch,

- laryngostroboscopic recordings

- electroglottography (EGG)
  - Assesses laryngeal functioning

- electromyography (EMG)
  - Assesses muscle function

- videofluoroscopic assessment
  - Swallowing test
Video Segments

- **Spastic Dysarthria** (2 mins)
  - Breathy, slow, monotone, monoloud, effortful, hoarse
  - Rigid left arm
  - Possible co-existing language disorder (ex. “time”)
Video Segments

- Spasmodic Dysphonia (3 mins)
  - AB Type (Mary)
    - Breathy, especially on unvoiced sounds (/h/)
  - AB Type, AB Type, + Tremor (Stephie)
    - Strained voice, effortful, breathy on some unvoiced sounds, tremor on /a/
  - AD Type, + Paroximal Dyskinesia (Jerome)
    - Voice blocks, strained, hoarse (esp. on /a/)
  - AD Type, + Tremor (Dot)
    - Monopitch, monoloud, slow, effortful (Don’t confuse with PD!), voice breaks and tremor on /a/
Patient Complaints, Other Symptoms

- **Spastic Dysarthria**
  - “Speech is slower, it tires me”
  - “My speech is nasal”
  - Swallowing difficulty
  - Drooling
  - Difficult to control laughter or crying (pseudobulbar affect)
  - Pathologic reflexes
  - Weakness

- **Spasmodic Dysphonia**
  - Negative impact on job, social life, and emotions
  - Vocal fatigue caused by increased effort in speech
  - Body motions or tenseness may be present secondary to spasms (AD type)
  - Frustration getting accurate DX
Treatment

- Spastic Dysarthria
  - Voice Therapy
    - LSVT, etc.

- Spasmodic Dysphonia
  - Botox to stop spasms
    - Cycle lasting ~3-4 months
  - Section RLN (CN X)--paresis of VF's
    - Permanent
  - Acupuncture (pt feels better, sounds same)

ASHA Leader (2001). *It's Not a Nasty Cold...It's Spasmodic Dysphonia*. 6,16.


