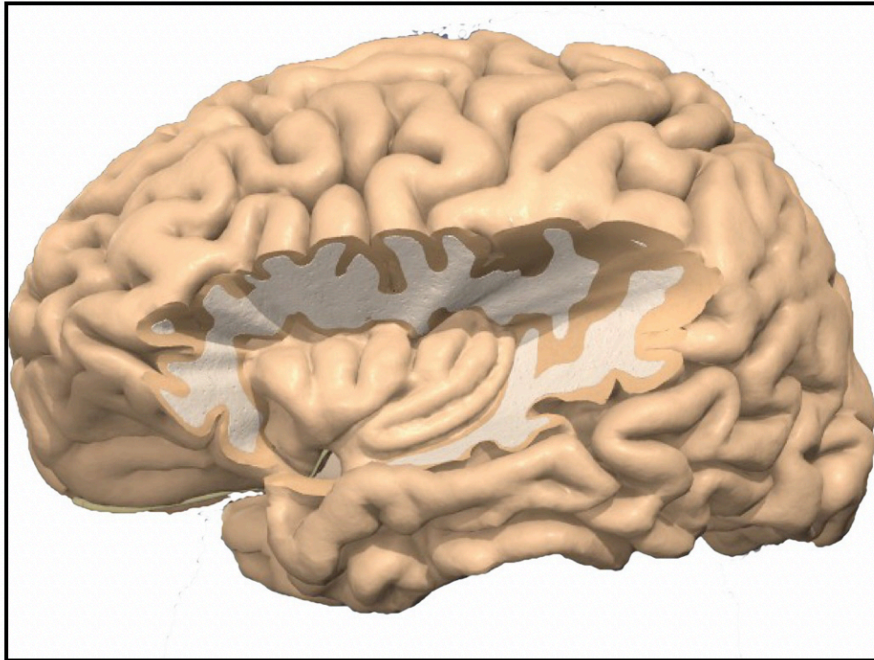# ACQUIRED APRAXIA OF SPEECH

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Overview:

◦ What is Apraxia of Speech?

◦ Diagnosing Apraxia of Speech (AOS)

Left-Hemisphere Lesions or Atrophy

Learning, planning, and control of speech production is orchestrated by complex, interactive, and distributed processes in the left cerebral hemisphere.

- SLPs use three diagnostic categories
  - Apraxia of Speech (AOS)
  - Aphasia (with Phonemic Paraphasias: APP)
    - E.g., "**F**ork → **P**ork"
  - Dysarthria

AOS Definition (Duffy, 2013, p4)

"Neurologic speech disorder that reflects an impaired capacity to plan or program sensorimotor commands necessary for directing movements that result in phonetically and prosodically normal speech.".

Motor *planning* / *programming*.

Motor Plan	Motor Programming
Specifies movement goals to the articulators: e.g. /s/ sound: move your tongue to the alveolar ridge (tongue-tip movement)	Specifies which muscles will be used in movement

Diagnostic Criteria for AOS

1. Slow speech rate
   1. Increased time to produced words/syllables
   2. Increased time to produce individual sound segments and transition between sounds
2. Dysprosody (syllable segregation, equalization of stress)
3. Sound segment distortions
4. Distorted phoneme substitutions

AOS Characteristics

*People w/ AOS may have attempts to self-correct or have intermittent accuracy

* May co-occur with Aphasia

Predominance of articulatory and prosodic abnormalities

Articulation

-Distorted substitutions, omissions or additions

• Sound substitutions (**F**ork→ **P**ork)

• Sound Omissions (**F**ork→ _ork)

• Sound Additions (Same → uh-same) – intrusive schwa.

-Consonant and Vowel Distortions

Prosody

-Prolongation of segments and intersegmental intervals

    Slow rate for both accurate and inaccurate productions

-Increased duration

-Equalization of stress or inaccurate stress assignment

Assessment – Speech Sample

○ Speech Sample: 5-10 minute speech sample. May include a picture description task.

○ **Repetition**
  - ○ Motor Speech Evaluation
  - ○ Speech Intelligibility
  - ○ Integral Stimulation

○ **Discourse**
  - ○ Conversational, narrative

○ **Confrontation Naming**

○ **Error rates are greater for**
  - ○ **Propositional speech** vs. volitional
  - ○ **Unfamiliar or unknown words** vs. familiar words
  - ○ **Phonetically complex words** vs. phonetically simple words

Assessing Articulation

◦ Word Intelligibility

   ◦ How well can the person be understood? E.g. percent word understood accurately

◦ Word Accuracy

   ◦ How often are word produced without any phonemic errors? E.g., percent words produced accurately

◦ Phonetic Error Rate

   ◦ How common are substitutions, omissions, additions, and distortions? Are there error patterns? E.g, percent of words w/ errors

Assessing Prosody

○ Is the speaking rate reduced?

○ Are there pauses between syllables or segments?

○ Are some sounds unusually long?

○ Is there a clear and accurate stress differentiation?

  ○ -po**ta**to, coll**ec**tion, to**ma**to

Approaches to Treatment

- Articulatory-Kinematic – use of techniques to improve articulatory accuracy

- Rate/Rythym control – use of techniques toimpose timing/rhythm

- Intersystematic reorganization – use of relatively intact systems to facilitate speech production

- AAC- use of alternative and augmentative means of communication

Bibliography

◦ Wambaugh, J.L., Duffy, J.R., McNeil, M.R., Robin, D.A., & Rogers, M.(2006). Treatment guidelines for acquired apraxia of speech: A synthesis and evaluation of the evidence. Journal of Medical Speech Language Pathology, 14(2), xv-xxxiii.

◦ • Wambaugh, J.L., Duffy, J.R., McNeil, M.R., Robin, D.A., & Rogers, M. (2006). Treatment guidelines for acquired apraxia of speech:Treatment descriptions and recommendations. Journal of MedicalSpeech Language Pathology, 14(2), xxxv-I xvii.