Speech Apraxia Neuropsychology

Neuropsychological Disorders · https://neuro.vip/neuropsychology/neuropsychological-disorders/speech-apraxia/

Speech apraxia is a neurological disorder that **affects the way a person produces speech**. It is caused by damage to the brain's speech centre, which results in **difficulty planning and carrying out the sequence of movements necessary for speaking**. Although those affected by the disorder have **intact language and cognitive skills**, they may have difficulty saying what they mean due to their inability to make the necessary **movement patterns** needed for speech.

Symptoms of Apraxia of Speech

Common **symptoms of apraxia of speech include slow and inaccurate speaking, pauses between words or syllables, and mispronounced words**. Depending on the severity of the disorder, other symptoms may include difficulty with intonation, rhythm, and sound production. People with this disorder may also experience difficulty with facial movements necessary for speech, such as lip rounding, raising eyebrows, and moving the tongue.

Example Errors in Apraxia of Speech

Articulatory Substitutions/Distortions

- Place, manner, voicing errors
  - *Example: "tea" → "key" (voicing error: /t/ → /k/)*
- Consonant distortions
  - *Example: "sun" produced with imprecise /s/ that sounds distorted but still recognisable as /s/*

Prosodic Errors

- Stress pattern errors
  - *Example: "PHOtograph" → "photoGRAPH" (stress shifted to wrong syllable)*
- Lengthened intersyllabic durations

- *Example: "computer" → "com...pu...ter" (abnormal pauses between syllables)*

- Equal stress (scanning speech)
  - *Example: "BA-NA-NA" instead of "ba-NA-na" (all syllables stressed equally)*

Motor Programming Behaviours

- Groping/trial-and-error movements
  - *Example: Attempting "boat" → visible lip movements searching for /b/, multiple attempts before achieving target*

- Inconsistent errors on repeated trials
  - *Example: "spoon" produced as "poon," then "foon," then correctly on third attempt*

- Initiation difficulties
  - *Example: Silent mouth posturing for several seconds before producing "go," or complete inability to initiate despite visible effort*

These examples illustrate the **motor planning/programming deficits** that distinguish apraxia of speech from purely linguistic (aphasic) or motor execution (dysarthric) disorders.

Treatment for Apraxia of Speech

Treatment for apraxia of speech includes i**ndividualised speech therapy and exercises to strengthen the muscles necessary for speech**. Speech therapy may involve using drills, language games, and visual or verbal cues to help the individual practice their speech movements. Exercises are also used to strengthen the speech muscles, as well as to improve the individual’s overall coordination. With treatment, some individuals may experience improved speech and can eventually reach full recovery.