

APRAXIA THE BASICS

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WHAT EXACTLY IS APRAXIA???

❖ Apraxia of speech, also known as verbal apraxia or dyspraxia, is a speech disorder in which a person has trouble saying what he or she wants to say correctly and consistently. There are two types of apraxia: acquired and developmental.

ACQUIRED APRAXIA

❖ Acquired apraxia of speech can affect a person at any age, although it most typically occurs in adults. It is caused by damage to parts of the brain that are involved in speaking, and involves the loss or impairment of existing speech abilities. It may result from stroke, head injury, tumor, or other illness affecting the brain.

DEVELOPMENTAL APRAXIA

❖ Developmental apraxia occurs in children and is present from birth.

❖ It is defined as a nonlinguistic disorder of articulation characterized by difficulty in planning movements of speech. The child knows what he wants to say but cannot make his speech system function in ways that result in specific sounds or sound sequences.

(P. Marshalla, 2005)

❖ Developmental Apraxia of Speech is also known as:

- ✓ Developmental Verbal Apraxia
- ✓ Oral Motor Planning Disorder
- ✓ Developmental Verbal Dyspraxia
- ✓ Developmental Articulatory Apraxia
- ✓ Childhood Verbal Dyspraxia
- ✓ Verbal Dyspraxia
- ✓

WHAT IT “ISN’T”

- ❖ Muscle weakness
- ❖ Paralysis
- ❖ Developmental articulation disorder
- ❖ Phonological disorder
- ❖ Oral Motor disorder
- ❖ Language disorder

*Apraxia may co-exist with any of these conditions

CAUSES

❖ The exact cause of DAS is not known. Different theories include:

- ✓ A relationship to the child’s language development
- ✓ A neurological disorder that affects the brain’s ability to send proper signals to move the involved muscles.
- ✓ Subtle auditory deficits
- ✓ Genetics

CHARACTERISTICS

- ❖ Limited vocalization and sound play during infancy
- ❖ Possible feeding difficulty in infancy
- ❖ Difficulty in putting sounds and syllables together in the correct order to form words
- ❖ Inconsistent errors when speaking
- ❖ Groping
- ❖ Incorrect use of prosody
- ❖ Receptive language is usually higher than expressive language
- ❖ Limited number of consonant sounds
- ❖ Vowel errors and distortions
- ❖ Speech errors inconsistent and unpredictable
- ❖ Voicing errors
- ❖ Errors vary with complexity
- ❖ Slow rate
- ❖ Incorrect sequencing
- ❖ Oral apraxia
- ❖ “Soft” neurological signs

MOST PROMINENT

- ❖ Correct use of consonants and vowels is limited; child can make the sound but cannot use it when needed.
- ❖ Correct pronunciation of multisyllabic or “difficult” words is limited.
- ❖ Consonant errors in conversational speech are highly variable.
- ❖ Vowel errors in conversational speech are highly variable.
- ❖ Difficulty with pitch, quality, rate, stress, intonation, and loudness.

DIFFERENTIAL DIAGNOSIS

- ❖ Audiological evaluation
 - ❖ History
 - ❖ Developmental milestones
 - ❖ Communication Means: verbal and nonverbal
 - ❖ Communication assessment
 - ✓ Receptive/expressive language
 - ✓ Articulation
 - ✓ Oral motor skills
 - ✓ Automatic control of oral structures
 - ✓ Volitional, nonverbal and verbal movements
 - ✓ Altering motion rates of articulators
 - ✓ Diadochokinetic rate
 - ✓ Ability to articulate phonemes, syllables and words
 - ✓ Production of vowels during coarticulation
 - ✓ Ability to articulate multiphonemic patterns
 - ✓ Spontaneous speech
 - ✓ Prosody
 - ✓ Error Patterns
 - ✓ Communicative impact
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- ❖ Formalized testing
 - ❖ Informal testing

FORMAL TESTING

- ❖ Kaufman Speech Praxis Test for Children

- ❖ The Verbal Motor Production Assessment for Children
- ❖ The Apraxia Profile
- ❖ The Screening Test for Developmental Apraxia of Speech
- ❖ Goldman Fristoe 2 Test of Articulation
- ❖ Clinical Assessment of Articulation and Phonology
- ❖ Standard receptive/expressive language measures

Kaufman Speech Praxis Test

- ❖ Identifies the level of breakdown in a child's speech so that treatment can be established and improvement tracked. It measures the child's imitative responses to the clinician, locates where the child's speech system breaks down, and points to a systematic course of treatment.

The Verbal Motor Production Assessment for Children

- ❖ Identifies children with motor issues that have negative effects on the development of normal speech motor control. Pinpoints where child begins to have difficulty, with items arranged from basic to complex.

The Apraxia Profile

- ❖ Assists in the differential diagnosis of developmental verbal apraxia, identifies the presence of oral apraxia, and reveals the most problematic oral-motor sequences and movements. Documents the child's oral-motor sequencing and establishes the level of oral movements and sequences produced successfully.

The Screening Test for Developmental Apraxia of Speech

- ❖ Assists in the differential diagnosis of developmental apraxia of speech. It points out the need for additional and more specific speech and neurological evaluation.

INFORMAL TESTING

- ❖ Oral peripheral exam
- ❖ Oral motor assessment
- ❖ Spontaneous sample of both speech production and language skills

ORAL PERIPHERAL EXAM

- ❖ A good oral peripheral examination assesses all structures and functions involved in both speech and non-speech movements:

- ✓ Lips
- ✓ Tongue
- ✓ Palate
- ✓ Teeth
- ✓ Jaw
- ✓ Larynx
- ✓ Breathing

ORAL MOTOR ASSESSMENT

- ❖ Oral motor assessment evaluates the child's ability to perform specific functions of his articulators:

- ✓ Lateralization
- ✓ Elevation
- ✓ Retraction/Protraction
- ✓ Separation
- ✓ Grading

➤ A child with apraxia may have difficulty imitating oral motor movements but can often perform them spontaneously.

SPONTANEOUS SPEECH/LANGUAGE SAMPLE

❖ It is important to assess the child's ability to spontaneously use both accurate speech production and age appropriate language skills. Children with apraxia often exhibit accurate production of the individual phonemes or words in spontaneous production, however they cannot produce these phonemes or words when presented with a target to imitate. It should be noted that children with apraxia often exhibit expressive language disorders.

ANALYSIS

- ❖ Phonetic Inventory: sounds and sound combinations the child is currently capable of making.
- ❖ Relational Analyses: comparison of child's speech with both same-age children and error-free adult speech.
- ❖ Suprasegmentals: pitch, vocal quality, rate, stress, intonation, loudness.
- ❖ Receptive/Expressive Language Skills: comparison of child's language development to same-age children.