

Three-Part Approach

Treating apraxia of speech with oral placement, feeding and speech tasks

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As speech-language pathologists, we are required to use our clinical judgment in order to evaluate and diagnose a variety of speech and language disorders. Perhaps one of the most challenging issues many of us encounter is the differential diagnosis of motor speech disorders and subsequent treatment protocol for children with developmental apraxia of speech.

The difficulty begins with the apparent lack of consensus regarding the terminology used in diagnosing motor speech disorders. Terms such as dyspraxia, apraxia, developmental verbal apraxia and childhood apraxia of speech are often used to describe the same clinical characteristics commonly associated with a disruption in the ability to voluntarily program oral, respiratory and laryngeal muscular movements for speech production.

Since there is no definitive diagnostic criteria to aid in diagnosis of apraxia of speech and considering not all individuals with this motor speech disorder display the same characteristics, it's difficult to know where to begin making sense of the apraxia of speech enigma in order for appropriate treatment principles and methodology to be implemented.

Case History

Developing a comprehensive case history form should be the first step. This is essential in order to supplement clinical observation and make appropriate referrals. Several common early case history indicators include limited vocal play and babbling, undifferentiated phonetic patterns from infancy and poor ability to imitate sounds during vocal play. However, delays in these early speech milestones are not sufficient to diagnose apraxia of speech.

Therefore, a thorough case history form should be developed in order to obtain information regarding not only early speech and language development, but the individual's past and current oral-motor and feeding skills.

In addition to sensory, oral-motor and speech-language components, individuals with apraxia of speech may require the implementation of a feeding component in their program plan. Often, individuals with apraxia of speech have reported difficulty with feeding skills. This may be manifested in difficulty with breast and/or bottle feeds and food transitions (i.e., from liquids to purees and eventually to semi-solids and solids). In addition, highly restricted food preferences are often noted. This is often due to a child's difficulty in accurately processing the sensory attributes of a food item with regards to shape, size, smell, texture and consistency.

Obtaining a 5-day diet baseline to include all foods consumed, those avoided and those classified as "challenging" is important for baseline data from which treatment will be based. Typically, mixed textures (i.e., Stage 3 foods) are notoriously difficult since a child has to separate a puree from a soft solid which involves chewing small chunks of food that are mixed in to a smooth puree.

An analysis of why there is a breakdown is important. The underlying basis will assist the therapist and family in using a task-analysis approach in attempts to expand the individual's diet using food-chaining methods. This may involve making minor adjustments in terms of taste, temperature and texture. Modifications must occur slowly, altering one variable at a time, with ongoing data collection.



Oral-Motor Skills

A second component to treatment of apraxia of speech involves a thorough assessment of a child's oral-motor skills.

Some children with a motor planning disorder may have a coexisting primary or secondary diagnosis of muscle weakness. Deficits may include decreased muscle tone, strength and stability, as well as decreased precision in articulatory movements. Thus, therapeutic intervention must consider the individual's current level of performance, any compensatory patterns and specific oral-motor movements that need to be targeted.

In initiating treatment, it is essential a complete overview of the individual's communicative, motoric and

Children with developmental apraxia often progress with a systematic presentation targeting oral placement, speech production activity and feeding.

cognitive skills are considered. The main focus of treatment should be the acquisition of voluntary, accurate and consistent control of speech articulators so phonemes and phoneme sequences are produced precisely and consistently. In order to accomplish this, treatment should involve imitation, auditory-visual stimulation, motor repetition and phonetic placement using oral sensory-motor activities.

Regardless of the specific activities implemented, it is important to practice executing the motor-planning processes so the individual is able to produce successive approximations of standard speech.

Speech Toolbox

Shaping consistent speech patterns can be facilitated using a sensorimotor approach. This approach includes teaching awareness of the articulators, normalizing tactile sensitivity and pairing oral-placement activities with speech production. Due to sensory deficits (i.e., drooling and oral astereognosis) often found in people with apraxia of speech, oral-sensory activities can be implemented to increase the individual's ability to feel the oral movements.

In using this approach, a therapist might utilize deep pressure to normalize oral-facial sensitivity. Next, to increase oral awareness, the therapist may incorporate therapy tools such as sensory sticks (with flavored powders), ice sticks, vibration and tongue depressors.

The critical element after any oral-motor stimulation is immediate engagement in functional activities such as feeding and speech production practice. Pairing oral-placement activities production can be achieved by using therapy tools in conjunction with verbal, visual and tactile cueing, depending on the person's speech inventory and motor planning abilities. For example, oral-placement activities may pair bite blocks with speech production tasks for vowels. These tools can be used to teach the jaw height required for vowel productions, as well as the difference between tense versus lax vowels.

A tongue depressor can be used not only for phonemic placement, but also to assist someone in producing the phoneme /m/ plus a vowel (or any other combination based on the word structure inventory).

A therapist using an oral placement approach to apraxia of speech might also use a Cheerio on the lower lip for production of the labial-dental production of /f/. Horns are also effective tools in apraxia therapy, helping address muscle memory and for /sh/.

Regardless of the individual's feeding skills and speech inventory, the key to progress with children with developmental apraxia is using a systematic presentation considering sensory motor work targeting oral placement, feeding and speech production activities.

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