USING TACTILE TECHNIQUES TO IMPROVE SPEECH CLARITY IN CHILDREN WITH CHILDHOOD APRAXIA OF SPEECH

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ABSTRACT

Presentation explores 1) Childhood Apraxia of Speech 2) Van Riper's Phonetic Placement Approach 3) the importance of tactile and proprioception in CAS therapy, 4) shaping placement of the articulators with tactile shapes to improve speech clarity.

LEARNER OUTCOMES:

1. Participants will be able to list at least three characteristics of Childhood Apraxia of Speech.
2. Participants will be able to list at least two goals of a tactile treatment approach.
3. Participants will be able to implement two phonetic placement methods.

DISCUSSION

Children with Childhood Apraxia of Speech (CAS) present with a speech sound disorder in which precision and consistency of movements underlying speech are impaired in the absence of neuromuscular deficits (ASHA, 2007). CAS may impact both non-speech and speech movements. CAS may also coexist with disorders of muscle strength and tone such as dysarthria. As infants and toddlers, children with CAS may have limited babbling, limited expression, but seemingly typical receptive skills. Older children with CAS may have poor oral imitation skills, erratic speech sound errors, and lack of a verse phonemic repertoire (Kaufman 2013). Unfortunately, there is no specific, validated list of diagnostic features of CAS which differentiates this disorder from other types of speech sound disorders (ASHA, 2007), however the research is emerging.

Individuals with CAS may support the need for more aggressive or alternative approaches to the use of traditional methods. Since CAS may coexist with autism, sensory processing deficits, Down syndrome, and dysarthria, a multi-sensory, tactile-kinesthetic approach is often necessitated. The decision on treatment models will be determined by: 1) the primary deficit 2) coexisting factors 3) muscle strength and tone and 4) cognitive abilities (Roy-Hill, 2013).

While it is always the goal to work on verbal output and speech production, some children with CAS have such severe motor planning issues, or co-morbid muscle based issues that they are non-verbal, or have very limited verbal output. Tactile cueing techniques such as PROMPT (Grigos,2010), or The Kaufman Speech Praxis Therapy (Kaufman, 2007) may prove positive results for some children; however others may need even more work on the sensory-motor system to gain foundational skills necessary for speech (Kaufman, 2007). Kaufman suggests that in order for these therapies to be successful, the child must be able to imitate, sit and attend, and execute gross motor movements on command. In addition, oral motor weakness should not be the primary disorder. For these children, sensory integration, oral motor stretching and toning and speech sound shaping may be needed (Kaufman 2007). There is no question that working on oral-motor skills should not be done is isolation of speech production when dealing with apraxia (Marshalla, 2000), but rather as Oral Placement Therapy (OPT) which is a term suggested by Bahr and Rosenfeld Johnson (2010.)

OPT is a modern extension of Phonetic Placement Therapy (Van Riper, 1954) and The Feedback Model (Mysak, 1971). It is based on a very common sequence (Bahr 2001,Young and Hawk 1955):

1. Facilitate speech movement with the assistance of a therapy tool (ex. horn, tongue depressor) or a tactile-kinesthetic facilitation technique (ex. PROMPT facial cue);
2. Facilitate speech movement without the therapy tool and/or tactile-kinesthetic technique (cue fading);
3. Immediately transition movement into speech with and without therapy tools and/or tactile-kinesthetic techniques.

For children with CAS, this sequence can be helpful if the child cannot form the necessary placement of the articulators to produce sounds. Repetition and reinforcement is helpful based on motor learning theory (Hammer, 2007; Mysak 1971.) To improve speech, one must work on speech (Jakielski, 2007); however one must consider those children who have very limited verbal output (Merkel-Walsh, 2012).

The concept of "bridging" which is movement to speech based on muscle memory is an effective therapy technique (Roy-Hill, 2013). For example if a child has limited lip rounding to produce a /w/ , blowing bubbles can be used to reinforce lip rounding through tactile cueing, and as soon as movement is noted the tool is faded (Van Riper, 1958) and speech sound drills can begin.

CONCLUSION

Clinicians must use evidenced based practice (EBP) to determine therapeutic treatment (ASHA, 2005). It is important to remember that EBP is not only limited to double blind studies, but an "approach in which current, high-quality research evidence is integrated with practitioner expertise and client preferences and values into the process of making clinical decisions (ASHA, 2007). Client progress and clinical data are important factors when determining treatment, and certainly the Phonetic Placement Approach (Van Riper , 1957) has been widely documented in the field of speech pathology. In addition, sensory-motor and oral tactile teaching techniques have clinical data to support their use (Bathel, 2007; Bahr & Rosenfeld-Johnson, 2010). Through muscle and motor based placement skills , therapists can effectively improve speech clarity in children who present with CAS.

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