What’s the Literature Saying???

Childhood Apraxia of Speech
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"Childhood apraxia of speech (CAS) is a neurological childhood speech sound disorder in which the precision and consistency of movements underlying speech are impaired in the absence of neuromuscular deficits (e.g. abnormal reflexes, abnormal tone). CAS may occur as a result of known neurological impairment, in association with complex neurobehavioral disorders of known and unknown origin, or as an idiopathic neurogenic speech sound disorder. The core impairment in planning and/or programming spatiotemporal parameters of movement sequences results in errors in speech sound production and prosody" (ASHA, 2007a, Definitions of CAS section, para. 1).
Is CAS a recognized disorder?

Yes

The Ad Hoc Committee on Childhood Apraxia of Speech technical document was approved in March 2007 and is the official position statement of ASHA.

Incidence of CAS

- Occurs in 1-2 children per 1,000 (0.1%-0.2%; Shriberg et al., 1997 as stated in ASHA Technical Report, 2007)
- 3.4%-4.3% of the children referred for speech disorders (Delaney & Kent, 2004 as stated in ASHA Technical Report, 2007).
- Conditions with higher occurrence of CAS such as:
  - galactosemia
  - fragile X syndrome
Assessment Tools for CAS

- Overall few studies using formal assessment tools.
- Formal tools that have been used in studies include:
  - Verbal Motor Production Assessment for Children (VMPAC)
  - Dynamic Evaluation of Motor Speech Skill (DEMSS)
  - The Orofacial Praxis Test
  - Kaufman Speech Praxis Test for children (KSPT)
  - Madison Speech Assessment Protocol (MSAP)

The Dynamic Evaluation of Motor Speech Skills is only tool which had validated and reliable studies. Not currently published, expected to be available at some point in 2016. (Gubiani et al 2015)

Clinical assessment and formal evaluation using tools with validated and reliable protocols is best way to assess for CAS. (Gubiani et al 2015)

Dynamic assessment is useful in helping to determine severity and prognosis.
Should we diagnose CAS under 3 y/o?

- Challenging to make firm diagnosis under 3.
- Use of provisional diagnostic classification (ASHA, 2007a, Assessment section)

Treatment of CAS

- Treatment should focus on:
  - increasing speech production and intelligibility
  - augmentative and alternative forms of communication (AAC) if severity warrants need for alternate means of communicating due (ASHA, 2007a, Treatment section)

- Treatment is based on motor learning principals
  - repetitive planning, movement patterns
  - programming
  - production practice (ASHA, 2007a, Treatment section)
Treatment

- 3 treatments with demonstrated treatment effects
  - Integral Stimulation/Dynamic Temporal and Tactile Cueing
  - Rapid Syllable Transition (ReST)
  - Integrated Phonological Awareness Intervention
- Treatment procedure recommendations

References

Cleveland Clinic

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