

Apraxia of Speech (Childhood)

Definition:

Childhood apraxia of speech (CAS) is a neurological childhood (pediatric) 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 or 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.

Description:

- Apraxia of speech is sometimes called verbal apraxia, developmental apraxia of speech, developmental articulatory dyspraxia, or verbal dyspraxia.
- Childhood apraxia of speech is a motor speech disorder.
- There is something in the child's brain not allowing messages to get to the mouth muscles to produce speech correctly.
- Children with apraxia of speech have the capacity to say speech sounds but have a problem with motor planning. They have difficulty voluntarily making the movements needed for speech.
- A child with the diagnosis of apraxia of speech has difficulty programming and planning speech movements.
- It is believed that children with CAS may not be able to form or access speech motor plans and programs or that these plans and programs are faulty for some reason.
- Apraxia can be mild, moderate or severe.

Characteristics:

- CAS is a problem with motor speech planning and programming, with no weakness, paralysis or poor co-ordination of the speech mechanism.
- Children with CAS, if they are able to talk, usually make very variable articulation errors, speak slowly, and may use unusual intonation, pausing and stress patterns.
- A child with CAS may have difficulty speaking, use few words, use more gestures or sound effects, or experience frustration when trying to speak.
- Speech errors affect vowels as well as consonants.
- Inconsistency is evident, with the same word being pronounced in several different ways.
- The child has difficulty imitating speech sounds.
- In many cases, the child's comprehension of language is more advanced than his or her speaking ability.
- Sounds that are used in some words may be omitted from other words.

Causes:

- In most cases, the cause is unknown. Sometimes it is caused by genetic disorders or syndromes, or stroke or brain injury.

Treatment:

- In CAS, children do not follow typical patterns and will show limited progress without treatment. There is no cure, but with appropriate, intensive intervention, significant progress can be made.

- The focus of intervention for CAS is on improving the planning, sequencing, and coordination of muscle movements for speech production (ASHA, N.D.).
- Multisensory cues (tactile, visual) are often helpful for improving muscle coordination and speech sequencing.
- Some individuals may use an augmentative and alternative communication system, or AAC device (for example, a portable computer that produces speech), if verbal communication is severely limited due to CAS. As speech production improves, the need for the AAC system may be reduced.

Resources:

Websites:

[American Speech-Language Hearing Association](#)

[Apraxia-Kids](#)

[National Institute on Deafness and Other Communication Disorders](#)

[Speechville Express](#)

Books for Children:

My Brother is Very Special; by May, Amy

Captain Hammer and Super Sean: The Case of the Missing "G"; O'Toole, Susan

I Want to Be Your Friend; By Baublitz, Angela

Books for Adults:

Here's How to Treat Childhood Apraxia of Speech; By Fish, Margaret

Understanding Childhood Apraxia of Speech for SLPs; By Flipsen, Peter, Ph.D., CCC-SLP

References:

Childhood Apraxia of Speech. (N.D.). In *American Speech-Language-Hearing Association (ASHA):*

Information for the Public. Retrieved from: <http://www.asha.org/public/speech/disorders/childhoodapraxia.htm>

SLP Start Guide to Apraxia. (September, 2005).

In *The Childhood Apraxia of Speech Association of North America (CASANA): Professional Place*.

Retrieved from: [http://www.apraxia-](http://www.apraxia-kids.org/site/c.chKMI0PIIsE/b.1071417/k.6DF6/SLP_Start_Guide_to_Apraxia/apps/nl/newsletter.asp)

[kids.org/site/c.chKMI0PIIsE/b.1071417/k.6DF6/SLP_Start_Guide_to_Apraxia/apps/nl/newsletter.asp](http://www.apraxia-kids.org/site/c.chKMI0PIIsE/b.1071417/k.6DF6/SLP_Start_Guide_to_Apraxia/apps/nl/newsletter.asp)