

Childhood Apraxia of Speech (CAS)

What is Childhood Apraxia of Speech?

Childhood Apraxia of Speech (CAS) is an oral-motor disorder (mouth-movement problem) that causes the child's speech to be hard to understand. It is usually detected after two years of age, when speech development is noted to be delayed.

Children with CAS may have a hard time putting the tongue, lips and jaw in the right position in order to make many speech sounds. He or she will have trouble putting speech sounds together (i.e., /b - a - t / for "bat"). Longer sentences or words are more difficult for the child to say, which causes more errors. This makes the child's speech harder to understand. The child may be able to make a sound or word correctly one time, but not be able to say it another time.

Usually, the child with CAS does not have difficulty with non-speech movements such as chewing, licking or swallowing. Children with CAS may have problems with other motor skills such as cutting, coloring, and writing. The difficulty with planning movements together may even result in problems with reading and spelling as the child gets older.



What causes childhood apraxia of speech?

CAS is a neuromotor speech disorder. Although there is nothing wrong with the muscles of the mouth, the message from the brain to the muscles is incomplete. This causes problems with coordination and planning of the movements needed to make a sound or word. The exact cause of childhood apraxia of speech is not clearly understood.

What are the typical characteristics of childhood apraxia of speech?

Research shows that the three characteristics seen the most in CAS are:

- inconsistent speech sound errors
- difficulty moving from one speech sound to another or one syllable to another
- abnormal rhythm, stress and intonation during speech

These are other characteristics that may be seen:

- difficulty producing many speech sounds
- use of only vowel sounds, grunts, or single syllables to communicate
- use of only a few speech sounds during speech
- more errors on longer sentences or longer words than with single sounds or syllables
- difficulty and struggle when trying to find the right mouth position to make a sound
- difficulty starting a sound
- normal receptive language (understanding) skills, but limited expressive language (talking) skills
- difficulty imitating mouth movements (in severe cases)

What is the treatment for CAS?

The child with CAS should begin speech therapy as soon as the disorder is identified. A speech-language pathologist will know how much therapy a child will need. Speech therapy helps the brain form new connections to help make the movements for speech.

Frequent practice of speech movements during therapy helps to train new movements for speech sounds and words. The speech-language pathologist may use several different techniques to help the child learn to produce and sequence speech sounds. There is not 'one' program used to treat CAS. Treatment will depend on the child's speech characteristics, age, and ability level. In some cases, sign language or a talking device are used to help the child communicate until the child's speech is clear to others.

The child with CAS may require several years of therapy. Most children who receive speech therapy in the preschool years will develop normal speech.

What can parents do to help?

The goal of speech therapy is to teach the child a new motor skill. For this skill to become easy, the child must practice often between speech therapy sessions. The parent should work with the child a few minutes several times each day. Short, frequent sessions are better than occasional long sessions. The more the child practices, the faster the progress will be noticed and the sooner the child will be able to develop clear speech.

Websites on childhood apraxia of speech:

- American Speech-Language-Hearing Association: <http://www.asha.org/>
- American Speech-Language-Hearing Association – Childhood Apraxia of Speech: <http://www.asha.org/public/speech/disorders/ChildhoodApraxia.htm>
- Apraxia Kids: <http://www.apraxia-kids.org/>
- Cherab: <http://www.cherab.org/>
- National Institute of Deafness and Other Communication Disorders – Apraxia of Speech: <http://www.nidcd.nih.gov/health/voice/Pages/apraxia.aspx>

For more information, please contact the Division of Speech Pathology at (513) 636-4341 or visit our website at www.cincinnatichildrens.org/speech.