

Childhood Apraxia of Speech

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Childhood apraxia of speech (CAS) is a motor speech sound disorder where the brain has trouble planning the movements that the tongue, lips, and jaw make for speech sounds. There is no one profile for a child with CAS; the severity varies. If your child is hard to understand it may be due to CAS, an articulation delay or a phonological disorder, all of which can be described as speech sound disorders. It is difficult to definitively diagnose CAS in a child younger than two years old because the child's speech may contain many characteristics of other speech sound disorders. It is important to seek an evaluation with a speech-language pathologist who is familiar with the evaluation and treatment of CAS and who can differentially diagnose CAS from other common speech sound disorders

There are several things to look for that are characteristic of the speech of a child with CAS. These include inaccurate vowel production, inconsistent errors, type and frequency of errors, poor imitation of speech, decreased intelligibility with more complex word shapes (*crusty* vs. *in*) and longer utterances, and unusual stress on or intonation of words. One telltale sign of CAS is whether a child can accurately produce vowels and whether they are produced accurately in words. For example, a child with CAS may say *nah* instead of *snake*. Another telltale sign of CAS is inconsistent speech errors. A child with CAS may say *butterfly* five different ways in five different attempts. The type and frequency of errors are often greater in CAS. Examples of error types include substitutions (*dee* for *bee*), omissions (*Be* for *Ben*), and cluster simplification (*banket* for *blanket*). It is not uncommon for a child with CAS to exhibit all three of these error types in one word! This makes it easy to understand why a child with CAS can be so difficult to understand. Often a child with CAS has a hard time imitating a clinician's model. Imitation can be better than spontaneous speech but it is not necessarily much more intelligible. Because CAS makes it hard for a child to plan and sequence the movements of the lips, tongue, and jaw, think how hard it is when there are more movements to make, i.e., in complex words and sentences. The speech of a child with CAS can also lack intonation or sound awkward due to a change in stress (*monKEY* vs. *MONkey*). These children may also demonstrate difficulty with the songs and nursery rhymes of early childhood that contain rhythm and melody. Not all children with CAS present with all of these characteristics, but if you observe some of them in your child an evaluation would be the next step.

Apraxia- what your family can do at home.

Although it is best to have a speech-language pathologist evaluate your child to establish target sounds and words, there is a lot that you can do at home to help your child improve his intelligibility.

- 1.** Depending on the severity of your child's CAS, it is helpful for everyone if a core vocabulary is established for the daily experiences of that child. For example, determine the labels that he uses for people he sees often, toys he plays with often, places he goes, food he likes, and things he enjoys doing. If he does not yet have labels that are easily differentiated, then start with what the child says and expand. For example, if he says "da" for ball and dog, use "da" for dog and begin to target "ba" for ball.
- 2.** Integral to establishing a core vocabulary is starting with what the child can already produce. If your child is only producing vowels, then play with toys or do pretend play where the vowel sounds can be used naturally. For example, play with objects or materials that are soft and use "ooo" when you touch the object. Then you can try adding consonants at the beginning to get true words, e.g., boo, goo, do, moo, and two.
- 3.** Another important piece of choosing targets for speech practice is that they need to be real words. As the essence of therapy for CAS is reprogramming the motor plan for specific sequences of sounds (and eventually sequences of words and sentences), it makes sense to target true words and not just sounds in isolation.
- 4.** As the goal of therapy for CAS is reprogramming, it is necessary to practice, practice, practice. Specifically, the improvement in sound sequencing comes from multiple repetitions each practice session for each target word and short but frequent practice done EVERY day.

If there is consistent follow-up with each of these steps, then observable, measurable progress won't be far behind.