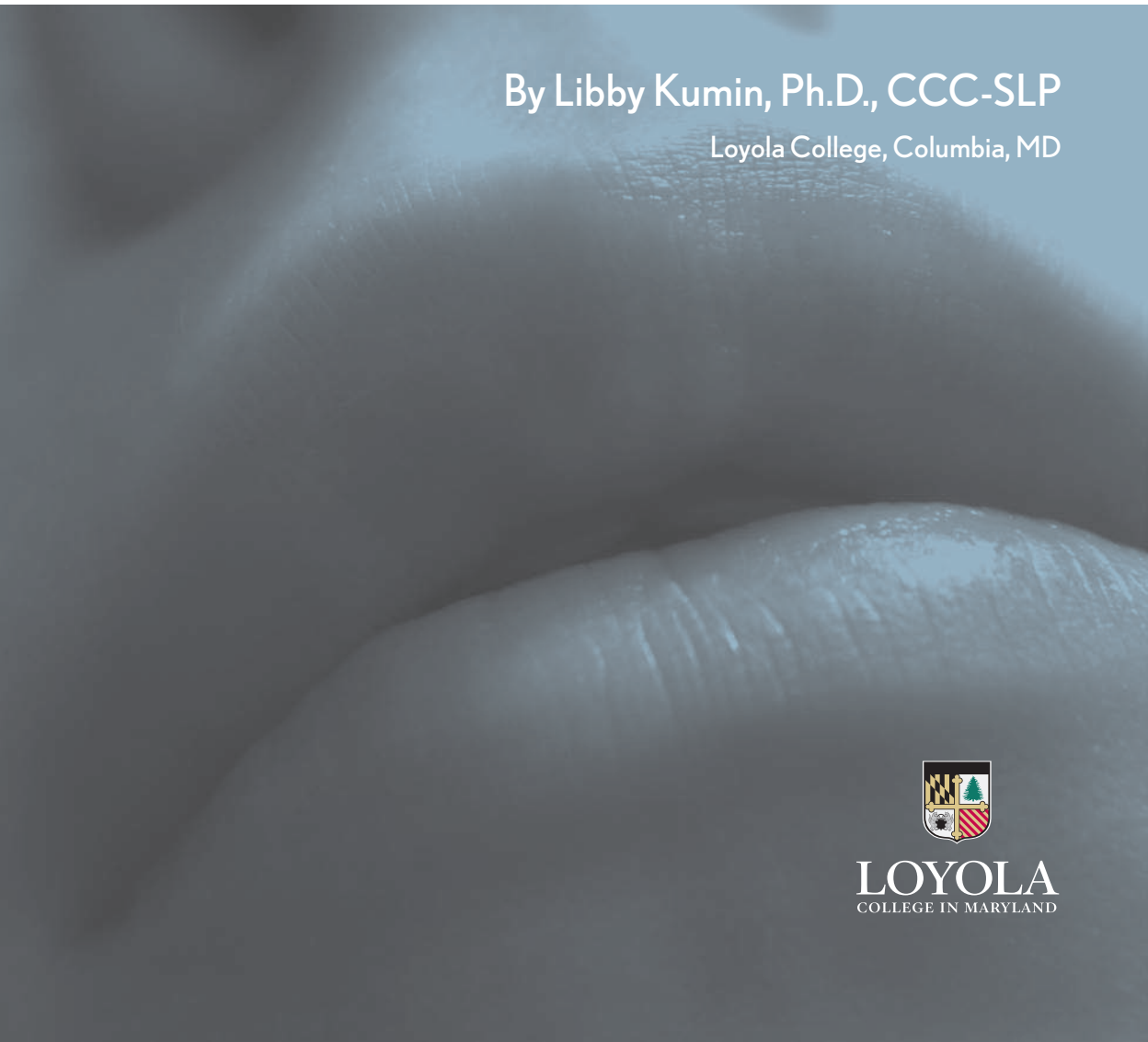
Childhood Apraxia of Speech Resource Guide



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What is Childhood Apraxia of Speech?

CAS is a motor speech disorder where children have difficulty planning, coordinating, producing and sequencing speech sounds. CAS interferes with the child's ability to say sounds and to combine them into syllables, words, phrases and conversations. Other terms such as developmental apraxia, dyspraxia, pediatric verbal apraxia or just apraxia all refer to the same problem. Some children with Down syndrome have characteristics of CAS, but many do not.

Down Syndrome News, Vol. 30, No. 3, 2007, has an article by Libby Kumin, Ph.D., CCC-SLP, on Childhood Apraxia of Speech (CAS). This article will be posted separately on the website. Here are some additional details on how to diagnose and treat CAS, as well as a list of available resources.

Assessment of oral facial structures and function

The SLP will examine the structure and muscle movements in the oral facial area.

Children with CAS:

- have no direct impairment of speech muscles although children with DS typically have low muscle tone.
- often have difficulty with movements needed for feeding, eating, and swallowing.
- have difficulty with voluntary movements for imitating sounds or speech.

The SLP also looks for evidence of difficulty with oral motor skills, which is very common in children with DS. Oral motor skills refer to the strength and movement of oral facial muscles, especially those related to speech. Children with CAS have difficulty with speech. Other types of apraxia, which may co-occur or occur separately in children, are:

- Oral apraxia: Child has trouble with mouth movements such as puckering lips or throwing a kiss.
- Limb apraxia: Child has trouble with voluntary hand movements, which may make it difficult to use sign language.

Difficulty with making speech sounds can be related to difficulty with articulation, phonology, and oral motor skills in addition to CAS. It is important to determine which problems are related to the speech sound difficulties your child is experiencing because the therapy methods to address each condition are different and may need to more than one. Articulation refers to the ability to produce speech sounds. Phonology refers to sound simplifications that the child makes. All children use phonological

process simplifications at younger ages, but children with DS often use these simplifications longer, e.g. leaving off the final sounds in words (cat becomes ca), shortening words by omitting an unstressed syllable (cheerios becomes chos), or repeating syllables (water becomes wawa). So, the SLP will try to determine if a child's speech is affected by CAS, oral motor skills, articulation, and/or phonology.

If your child is speaking, the SLP will listen during play activities or conversation in order to analyze your child's speech.

Formal CAS testing

The formal tests most frequently given to diagnose CAS are *The Kaufman Speech Praxis Test for Children* (KSPT), *The Apraxia Profile*, and the *Verbal Motor Production Assessment for Children* (VMPAC).

Based on red flags in the case history, speech characteristics, parent report, oral motor evaluation, informal and formal testing, the SLP can determine whether your child is demonstrating patterns of CAS.

What kinds of treatment programs are available for CAS?

By identifying CAS in children with DS, appropriate treatment methods can help the child develop speech. Therapy needs to be frequent, and there should be a home practice program. Your child will need lots of practice making sounds, but this can be done as part of play, singing and daily activities. The basic difference is that CAS therapy focuses on length and complexity of sound combinations whereas traditional therapy focuses on individual sounds in a sound by sound approach. CAS treatment progresses from teaching your child individual speech movements (a consonant vowel combination) to sequences of movements, from shorter to longer, less to more complex.

- Oral motor approaches (practicing the movements for speech sounds)
- Phonemic and articulation approaches (teaching your child how to make the sounds and combine sounds into syllables)
- Cueing approaches

  Visual cues (providing a hand cue that your child can see such as Cued Speech)

  Visual-tactile cues (e.g. turtle vowels by Strode and Chamberlain)

  Physical cues (PROMPT) where the therapist touches the facial area where the sound is made

- Multimodal or Total Communication approaches i.e., using word in addition to signs or cues to use signs to teach speech and language
- Prosodic approaches (melodic intonation therapy) use singing and rhythm to help the child learn sound combinations
- Shaping approaches which deconstruct and construct words (e.g. the Kaufman Praxis Treatment Kit) break words down to the level of complexity that your child can say, moving the word immediately into functional expressive vocabulary use, and then building the word up through shaping procedures. For example, your child can say na, but cannot say banana. You would show the child banana many times, having him say na, and then building up to nana, and finally to banana. If his name is Jordan, he might start out by using /da/ when giving his name, then building to /oda/, then odan, then ordan, then Jordan.

Want to know more?

www.apraxia-kids.org

www.asha.org

www.disabilitysolutions.org (download Vol. 5, which has three issues on speech intelligibility)

Kumin, L. *What Did You Say? A Guide to Speech Intelligibility in People with Down Syndrome* (DVD) (2006). Bethesda, MD: Woodbine House.

Time to Sing (2000) available from Super Duper Publications (familiar children's songs sung at a slower rate).

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