



Ontario Association for Families of Children with Communication Disorders OAFCCD

Unscrambling Scrambled Speech

Warning Signs and Treatment for Developmental Apraxia of Speech

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David was a bright three-year old with intense brown eyes. Like other little boys at his daycare centre, he loved to play with train sets and blocks. Unlike other kids, he played alone most of the time. He couldn't talk, so he screamed and hit to get what he wanted. His peers quickly learned to avoid him.

David was recently diagnosed with Developmental Apraxia of Speech (DAS). His parents are now working with a speech-language pathologist to help their son learn to communicate more effectively. They finally understand why he has been so frustrated for so long. After three months of therapy, David can now say "help", "stop" and a dozen other words. He uses ten signed words which improve the clarity of his messages. A dark cloud no longer follows David to daycare every day. For the first time in his young life, he is happy to be around other children.

Children with DAS do well with early, intensive intervention that is geared to their specific needs. This article outlines warning signs and treatment considerations. If you suspect that your child has a speech disorder, do not hesitate to contact a speech-language pathologist. Early treatment is the key to averting the social, emotional and behavioural problems associated with impaired communication.

What is Developmental Apraxia of Speech (DAS)?

DAS is a motor speech disorder characterized by difficulty sequencing the speech movements necessary for volitional speech. It is variably referred to as "verbal apraxia", "verbal dyspraxia" and "developmental verbal apraxia". The important root word in each term is "praxis", which refers to the ability to execute skilled movements. DAS affects approximately 2% of the population. 70% of these individuals are male. For most children there is no known cause. It is thought to be related to immature neurological development rather than brain damage.

Speech problems result when the brain tries to tell the speech muscles what to do. These signals are "scrambled", not unlike confused transmissions from a satellite dish to a television that is not equipped with a descrambler. The satellite dish and television work fine, but the signal is indecipherable. Similarly, oral structures are intact in children with DAS. It is the brain signal, or motor plan that is defective. Treatment involves helping children to systematically unscramble speech control signals and to bring them under voluntary control.

Co-occurring Conditions:

“Pure” verbal apraxia is rare. Co-morbid conditions often include language delay, low tone (i.e. “hypotonia”), and sensory integration problems including hypersensitivity to touch. Children with DAS are at high risk for problems with reading, writing and spelling skills. Verbal apraxia can be accompanied by diagnoses such as; Autism, Down Syndrome and Cerebral Palsy. Thus, a one-size-fits-all treatment approach is not desirable. Each child arrives at the speech-language pathologist’s office with a unique set of circumstances and needs. Skilled therapists must identify these needs in assessment and address them in treatment.

What are some Warning Signs?

Some of the more common warning signs of Developmental Apraxia of Speech include:

- little or no babbling during infancy
- difficulty with nursing or feeding during infancy
- few consonants
- slow, effortful or halting speech
- poor speech intelligibility
- difficulty imitating sounds and words
- late onset of first words
- inconsistent or unpredictable speech errors
- groping during speech attempts
- high frequency of vowel and voicing errors
- other “soft” neurological signs, e.g. awkward, sensitive to touch, sensory problems, fine motor problems
- slow or no progress with traditional speech therapy

Children with any of these red flags should be referred to a speech-language pathologist for testing. DAS can be diagnosed in children as young as 18 months of age.

What can I expect in future?

Specific treatment outcomes for children with DAS are quite variable and depend upon a number of specific characteristics including a child’s:

1. Receptive language abilities
2. Cognitive abilities
3. Desire to communicate (communicative intent)
4. Age at which therapy is initiated
5. Extent of other speech and language problems
6. Extent to which therapy is tailored to child’s unique needs
7. Extent of family participation and involvement in therapy and follow through at home

Generally speaking, the prognosis for functional verbal communication is good with early, intensive intervention. Children with DAS often require long term therapy, spanning two years or more. With effective intervention, all but the most severely apraxic children can eventually become competent oral communicators.

How do I find effective Speech Therapy?

Children with DAS respond best to treatment that is specific to apraxia. The speech-language pathologist that works with your child should have thorough training in DAS. Programs should be carefully structured, integrate principles of motor learning and offer multi-sensory input. Parents should be involved in daily home practice with their child.

Skilled therapists will treat you as important treatment facilitators. They will encourage you to observe sessions, use speech development strategies at home, listen carefully to your concerns and address them in treatment, and involve you and other key individuals (e.g. day care providers, teachers, grandparents, siblings) in the therapy process.

Roll up your sleeves and get involved. You have as many or more observations and insights to offer a treatment program than any therapist does. Never apologize for asking the tough questions. If you are unhappy with your clinician, find a new one.

Share the joy of revealing an exciting world of communication to your child. There can be no greater reward in a parent's life!

Recommended Websites:

There are many excellent sources of support for families of children with DAS on the Internet. Some of the most impressive sites are listed below:

1. Childhood Apraxia of Speech Association of North America website: www.apraxia-kids.org
2. Cherab Foundation: www.apraxia.cc
3. Dr. Nancy Kaufman's, expert in DAS, website: www.kidspeech.com.
4. Prompt Therapy Institute: www.promptinstitute.com.
5. Expressive Communication Help Organization (ECHO) site: www.apraxiaontario.homestead.com

Source: Kerry Erle is a speech-language pathologist with over eighteen years of clinical experience. She is president of London Speech and Language Centre, a nationally recognized clinic offering speech-language pathology and academic support services for children and adults. September 2001