



Motivations

The POAC Bulletin

Volume 3, Issue 1

April 2010

Childhood Apraxia of Speech: What Is It, Really?

As parents of children with autism, all of us have faced our kids' challenges with speech and language delays. Many of us, at some point along the way, have heard the diagnostic term 'apraxia' thrown around about our kids. Or we've heard the term 'dyspraxia.' Or both. My wife and I have two spectrum kids and we have had conversations about both terms about both kids. We wondered 'what are these conditions really, and what's the difference?'

Recently, my daughter's speech therapist, Kelley D. Shaw CCC-SLP, invited me to the March 26th annual convention of the MD Speech-Language-Hearing Association. At the convention, Ms. Shaw gave a very helpful keynote presentation on apraxia. Though this convention is for professional speech pathologists, right up front she answered the 'what's the difference' question. There is no difference. The terms are interchangeable, though unfortunately most autism parents aren't typically told that.

But Ms. Shaw also pointed out that most parents should not be hearing this term at all. Childhood Apraxia of Speech (CAS), which is the formal term for the condition, is very rare. Comprehensive prevalence data do not exist, but the few small studies that are published found between 3% and 5% of kids referred for speech meet the criteria for apraxia. That's 3-5% of ALL kids with speech issues, so kids with autism are a further subset of that small number.

So if the condition is actually rare, but parents hear about it a lot, then clearly it is misunderstood. What is it? To begin to answer this, Ms. Shaw flowcharted the process between a person having an idea and actually making a speech sound. Three steps intervene between the idea and the word:

- 1) A pre- motor phase in which the brain turns a concept into language (i.e. into the specific phonology and syntax that will express the concept in sound),
- 2) A motor-planning phase in which the brain determines the specific structures of the mouth and throat that will produce the sound, and
- 3) A motor phase in which the specific muscles move as needed to create the sound that has been planned.

Apraxia is a disorder of the second phase – motor planning. As Ms. Shaw went to describe the specific symptoms of apraxia, it was clear to me that it never should have been considered for my son. But it fits my daughter perfectly. Apraxia is characterized by receptive language that is much stronger than expressive language, evidence that the pre-motor part of forming ideas into words is intact. It is also characterized by slow, effortful production of words, slow progress in therapy and words that are learned and then disappear (boy, do we know about those last two).

Childhood Apraxia of Speech (cont.)

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A particularly telling feature is inconsistent speech errors when trying to produce the same word or sound. Ms. Shaw demonstrated this with video of my daughter recently trying a simple echoic drill. Anneliese's responses ('say ma'... ah... 'say ma' ... gee... 'say ma'... oo...) are typical of apraxia. This feature points to the motor-planning problem. If the muscle movements were correctly planned, but there was a physical barrier to producing the sound, the error would be consistent over repeated trials.

So if your child falls into this small group of children affected by apraxia, what does this mean for treatment, particularly in the context of applied behavior analysis (ABA)? There is nothing in a diagnosis of apraxia in addition to autism that means it is any less appropriate or helpful to use the ABA principle of differential reinforcement to shape successful speech sounds. Applying an analysis of verbal behavior as part of ABA intervention will continue to be helpful. But it can help us understand and be less anxious when our kid does not make the dramatic language response to ABA we've seen in training videos.

It can also underline the importance of finding a speech therapist that understands motivation and reinforcement, then working closely with them as a supplement to your ABA program. Together you can shape your child's speech development as carefully as possible. In our case, facing that our daughter can't repeatedly form the sound 'ma' at age 7, and understanding the underlying reason, makes us feel more confident about our decision to pursue communication through her alternative and augmentive communication (AAC) device. The AAC device takes the motor planning out of the way of Anneliese telling us what's on her mind.

Apraxia and autism together may mean the road to communication is longer and more difficult. But between the impact of ABA, speech therapy and our kids' amazing capacity to work hard to reach us, it doesn't mean we won't get there.

By: Wil Gehne

For more information about apraxia, the American Speech, Language and Hearing Association (ASHA) position paper and technical report are available here:

http://www.apraxia-kids.org/site/c.chKMI0PIIsE/b.2623959/k.F3CC/ASHA_CAS_Position_Statement_and_CAS_Technical_Report.htm

For more on integrating speech therapy and ABA, see the *Journal of Speech-Language Pathology and Applied Behavior Analysis*, available with other valuable (and FREE) ABA journals here:

<http://www.baojournal.com>