

Lily

Lily is a 4-year-old girl with childhood Apraxia of Speech (CAS) and some behavioral issues.

Childhood apraxia of speech (CAS) is a motor speech disorder. Children with CAS have difficulties saying sounds, syllables, and words. This is not due to weakness or paralysis, but is due to issues with brain function. These children experience challenges with motor planning. That is, they have difficulty with being able to move the body parts (e.g., lips, jaw, and tongue) necessary for clear speech. The child knows what he/she wants to say, but the brain has difficulty coordinating the muscle movements necessary to say those words.

Not all children with CAS experience the same challenges. All of the signs and symptoms Lily exhibits may not be present in every child. It is important to have your child evaluated by a speech-language pathologist (SLP) who has knowledge of CAS to rule out other causes of speech problems.

In young children, they generally do not coo or babble; first words are late, and they may be missing sounds only making few different consonant and vowel sounds. Problems combining sounds may show long pauses between sounds. Simplifying words by replacing difficult sounds with easier ones or deleting difficult sounds...although all children do this, a child with CAS does so more often. Also children may experience problems eating.

Some other issues include delayed language development; expressive language problems like word order confusions and word recall. Difficulties with fine motor movement/coordination; Over sensitive (hypersensitive) or under sensitive (hyposensitive) in their mouths such as tooth brushing or eating crunchy foods, and unable to identify some objects in mouth through touch. Also may experience problems with learning to read, spell, and write.

Reference Base From:

<http://www.asha.org/public/speech/disorders/ChildhoodApraxia/>

Andrew

Andrew is a 5-year-old boy diagnosed with Autism Spectrum Disorder (ASD) and Childhood Apraxia of Speech.

Autism

Autism Spectrum Disorder refers to a range of conditions characterized by challenges with social skills, repetitive behaviors, speech and nonverbal communication, as well as by individual unique strengths and differences. There isn't a single "autism" but many types, caused by different combinations of genetic and environmental influences. The term "spectrum" reflects the wide variation in the challenges and strengths possessed by each person with autism. The most obvious signs of the disorder tend to appear between 2 and 3 years of age. In some cases, it can be diagnosed as early as 18 months. Autism's prevalence is 1 in 68 children; 1 in 42 boys and 1 in 189 girls. Around one third of people with autism remain nonverbal and another one third of people with autism have an intellectual disability. Frequently medical and mental health issues accompany or co-occur with autism. Some of these symptoms include gastrointestinal (GI) disorders, seizures, sleep disturbances, attention deficit and hyperactivity disorder (ADHD), anxiety and phobias.

Reference Base From... Important to note that the Fifth Edition of The American Psychiatric Association's Diagnostic and Statistical Manual (DSM-V), was updated in 2013. Update included changes to the diagnosis of autism. Some children may have been diagnosed under previous edition... DSM (DSM-IV) which identified several diagnoses related to autism (e.g., Pervasive Developmental Disorder-Not Otherwise Specified (PDD-NOS) and Asperger's) which no longer exist in DSM-V. If the DSM-IV diagnosis of PDD-NOS or Asperger's is well-established, best practice should receive updated diagnosis under DSM-V). See <https://www.cdc.gov/ncbddd/autism/hcp-dsm.html> for more information on current diagnostic criteria for autism spectrum disorder.

Apraxia

Apraxia is a poorly understood neurological condition that makes it difficult to impossible to make certain motor movements, even though a child's muscles are normal. Milder forms of apraxia are known as dyspraxia; there are different forms. One is orofacial apraxia. Children with this form are unable to voluntarily perform

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physical movements such as use of facial muscles (mouth) resulting in an inability to lick their lips (tongue) or wink. Another form of apraxia affects a person's ability to intentionally move their arms and legs. There is wide range of behavioral challenges that can result when children have an apraxia but do not receive skilled clinical assessment and therapies.

See Lily's story (slide 25) for further information on Childhood Apraxia of Speech.

Reference Base From: <http://www.webmd.com/brain/apraxia-symptoms-causes-tests-treatments#1>

Tomás (age 6.5)

In summary, Tomas is a 6 and half year old boy with global developmental delays (GDD).

Global Developmental Delay is descriptive term used to indicate that a child has developmental milestone domain delays by at least 25% in two or more areas of development. It is not a diagnosis, but is typically used in school settings until the age of 8 at which time a child is required to be re-classified under a more specific category if he or she is to continue to qualify to receive special education services through the school. Tomás' delays are generally in three areas: fine-gross motor; language-communication; intellectual-thinking skills; and Activities of Daily Living. Interventional therapies may lead to improvement in one or more domains over time. An education and/or medical diagnosis may be assigned at some later point in his developmental journey.

Reference Base... see Slide # 84

Leev (age 8)

In summary, Leev is an 8 year old boy with significant learning, behavioral problems and likely trauma experience.

Significant leaning/behavioral problems is a broad, descriptive term. It is often used when a child exhibits behavioral patterns that are deemed clinically significant because they are frequent, persistent, and/or maladaptive, and interfere with emotional maturation, education-learning, physical wellbeing or social and cognitive functioning.

Behavior is best assessed in the context of the child's developmental history, cultural, social and family experiences. Therefore, because Leev has a history or learning issues, has experienced trauma and exhibits significant behavioral issues, he should receive a skilled, culturally competent, and comprehensive assessment. Best practice would be for his physician and/or school to refer him for such an assessment with the understanding that he will mostly likely need treatment services.

Aiden (age 10)

In summary, Aiden is a 10-year-old boy with spina bifida.

Spina Bifida (SB) is a neural tube genetic birth defect. It occurs when the small bones of the spine (vertebrae) don't form properly around part of the baby's spinal cord because the layer of cells that become the brain and spinal cord and are known as the neural tube didn't close completely during the first few weeks of pregnancy. Permanent nerve damage, which can include paralysis, results when part of the spinal column sticks out through an opening in the spine caused by the deformation of the vertebrae.

Spina bifida is likely caused by the interaction of multiple genetic and environmental factors, which include low maternal levels of the vitamin folate either due to low folic acid intake or poor maternal processing of the vitamin. Most cases of spina bifida are sporadic, meaning they occur when there is no family history of spina bifida, although there is an increased risk for a sibling or a child with spina bifida to have a child with spina bifida. Spina bifida is one of the most common types of neural tube defect, affecting an estimated 1 in 2,500 newborns worldwide and about 0.4 per 1000 US births. For unknown reasons, the prevalence of spina bifida varies among different geographic regions and ethnic groups. In the United States, this condition occurs more frequently in Hispanics and non-Hispanic whites than in African Americans.

Spina bifida can range from mild to severe. Mild spina bifida is the most common form and is known as spina bifida occulta. It occurs when spinal cord nerves develop normally, the spinal column bones are abnormally formed, and the nerves do not stick out through an opening in the spine. This form usually doesn't cause problems or need treatment, although some children may have back pain or bladder function issues. In fact, most children with spina bifida occulta don't know they have it until they have a back X-ray for another reason.

The more rare and more severe form of spina bifida is known as a myelomeningocele. It occurs when part of the spinal cord and its protective covering is inside a meningocele, a fluid-filled sack visible on the back that is formed when fluid leaks out of the spinal column and pushes against the skin that covers it. The

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location of the spinal column opening and amount of spinal cord affected determines the signs and symptoms in this type of spina bifida.

Challenging symptoms of myelomeningocele spina bifida are bladder or bowel problems, such as leaking urine or having a hard time passing stools; diminished or no feeling in the legs, feet, or arms, with an inability to partially or totally move parts of the body; and spine curvature such as scoliosis including associated ambulation issues. Hydrocephalus (a fluid build up in the brain) can occur, causing seizures, learning problems, or vision problems. Even when hydrocephalus is treated, these issues may occur. And it is not uncommon for shunts (the most common treatment for hydrocephalus) to clog, requiring neurosurgery to correct the problem.

Reference Base From: <https://www.cdc.gov/ncbddd/spinabifida/facts.html>

Lily(age 12)

In summary, Lily was diagnosed with apraxia of speech (CAS) at 4; and autism (ASD) at age 5. Now at 12 years old

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In older children headed toward teens including adolescence: children make inconsistent sound errors that are not the result of immaturity; can understand language much better than he or she can talk; likely has difficulty imitating speech, but imitated speech is more clear than spontaneous speech; may appear to be groping when attempting to produce sounds or to coordinate the lips, tongue, and

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jaw for purposeful movement; have more difficulty saying longer words or phrases clearly than shorter ones; appears to have more difficulty when he/she anxious; is hard to understand, especially for an unfamiliar listener; sounds choppy, monotonous, or stresses the wrong syllable or word.

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Autism Spectrum Disorder

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