

Auditory Processing Disorder

Definition:

Auditory Processing Disorder (APD), also known as Central Auditory Processing Disorder (CAPD), refers to the way the central nervous system uses information. This disorder is not the result of higher order cognitive, language or other related disorders.

Description:

APD refers to a variety of disorders related to the way the brain processes auditory (verbal) information. Difficulties distinguishing and understanding sounds stem from central nervous system dysfunction. It is important to note that children affected by APD typically have normal structure and function of the outer, middle, and inner ear.

Characteristics:

General:

- APD can be developmental or acquired
- Children with APD experience difficulty understanding speech in noisy environments
- Trouble following directions
- Difficulty discriminating between similar-sounding speech sounds
- Frequently request clarification of information
- Struggle with spelling, reading, and comprehending verbal information presented at school
- May behave as children who have hearing loss, although a hearing loss is not present

Behavior at home:

- When given a multi-part instruction, only does first part, then gets distracted or “forgets”
- *Family comments include:* “Sometimes I think there is a hearing loss;” “Hears what s/he wants to hear;” “Acts like s/he doesn’t hear me sometimes;” “I know s/he has heard me, but s/he just sits there looking at me like s/he didn’t understand”
- *Parent reports:* “The school thinks there is an attention problem, but s/he can play video games for hours so I don’t see the lack of attention so much at home.”
- Has friends, but often complains that his/her feelings are hurt by playmates
- Often doesn’t get humor (jokes) or sarcasm
- Often asks for repetition or clarification
- May not be good at telling where a sound is coming from or who is talking in noisy situation
- Prone to temper tantrums or arguments when in a noisy situation

Behavior at school:

- Experiencing academic problems
- Characterized by teacher as acting “spacey”, “dreamy”, or “on another planet” during class
- Difficulty learning to read or do calculations
- Rarely completes seatwork during school hours, even if time deadline is extended
- Easily distracted by antics of children in near proximity
- Teacher wonders if a hearing loss is present
- Poor at carrying out multi-step instructions
- May do first step, but then cannot say what other parts are
- Has difficulty auditorially discriminating minimal-pairs (like “bed” and “said”)
- Works better in quiet room than in regular classroom
- Does better in classes not dependent on oral language

- Needs more clarification of an oral assignment than other children
- Hardest classes rest on reading for content

Causes:

APD may occur following frequent ear infections, head injuries, neurodevelopmental delays, tumors, degenerative disorders, viruses, oxygen deprivation, or lead poisoning. Sometimes the cause is unknown.

Implications for speech and language:

A speech-language pathologist may focus on communication, speech, and written and oral language skills.

Diagnosing this disorder:

An audiologist makes the formal diagnosis of APD. However, it is common for a multidisciplinary team to fully assess the impairments manifested by children with APD. A teacher or educational diagnostician, psychologist, and speech-language pathologist may all be involved in assessing the needs of the individual child. The goal of the multidisciplinary team is to identify the child's strengths and weaknesses, while the goal of the audiologist is to make the actual diagnosis.

The audiology assessment typically requires that a child is 7 or 8 years old. Due to the nature of the tasks during the assessment, it is important to wait until this age because there is less variability in children's brains by this age, making test results more accurate.

Treatment:

There is not one specific cure for APD. Treatment is highly individualized according to a child's specific strengths and weaknesses. Treatment does, however, typically focus on the following three areas:

- Changing the learning environment – this may include minimizing distractions or changing delivery method of a message
- Compensatory strategies – this may include having the child take control of their understanding of spoken language by utilizing active listening techniques
- Remediation of the auditory disorder itself – this may include computer-assisted techniques or one-on-one therapy

Resources:

Books for Parents:

When the Brain Can't Hear: Unraveling the Mystery of Auditory Processing Disorder by Teri James Bells, PhD

Websites:

Blog about living with APD: <http://qw88nb88.wordpress.com/living-with-auditory-processing-disorder/>

Books and more info: <http://pinterest.com/jbrobbel/auditory-processing-disorder/>

Quick Facts: http://www.phonak.com/com/b2c/en/hearing/awareness/what_is_apd.html

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