

Auditory Processing Disorder

About Auditory Processing Disorder

Auditory processing disorder (APD), also known as central auditory processing disorder (CAPD), is a complex problem affecting about 5% of school-aged children. These kids can't process the information they hear in the same way as others because their ears and brain don't fully coordinate. Something adversely affects the way the brain recognizes and interprets sounds, most notably the sounds composing speech.

Kids with APD often do not recognize subtle differences between sounds in words, even when the sounds are loud and clear enough to be heard. These kinds of problems usually occur in background noise, which is a natural listening environment. So kids with APD have the basic difficulty of understanding any speech signal presented under less than optimal conditions.

Detecting APD

Kids with APD are thought to hear normally because they can usually detect pure tones that are delivered one by one in a very quiet environment (such as a sound-treated room). Those who can normally detect sounds and recognize speech in ideal listening conditions are not considered to have hearing difficulties.

However, the ability to detect the presence of sounds is only one part of the processing that occurs in the auditory system. So, most kids with APD do not have a loss of hearing sensitivity, but have a hearing problem in the sense that they do not process auditory information normally.

If the auditory deficits aren't identified and managed early, many of these kids will have speech and language delays and academic problems.

Symptoms of APD can range from mild to severe and can take many different forms. If you think your child might have a problem processing sounds, consider these questions:

- Is your child easily distracted or unusually bothered by loud or sudden noises?
- Are noisy environments upsetting to your child?
- Does your child's behavior and performance improve in quieter settings?
- Does your child have difficulty following directions, whether simple or complicated?
- Does your child have reading, spelling, writing, or other speech-language difficulties?
- Is abstract information difficult for your child to comprehend?
- Are verbal (word) math problems difficult for your child?
- Is your child disorganized and forgetful?
- Are conversations hard for your child to follow?

APD is an often misunderstood problem because many of the behaviors noted above also can appear in other conditions like learning disabilities, attention deficit hyperactivity disorder (ADHD), and even depression. Although APD is often confused with ADHD, it is possible to have both. It is also possible to have APD and specific language impairment or learning disabilities.

Causes

The causes of APD are unknown. But evidence suggests links to head trauma, lead poisoning, and chronic ear infections. Because there are many different possibilities — even combinations of causes — each child must be assessed individually.

Diagnosis

Audiologists (hearing specialists) can determine if a child has APD. Although speech-language pathologists can get an idea by interacting with the child, only audiologists can perform auditory processing testing and determine if there really is a problem.

Some of the skills a child needs to be evaluated for auditory processing disorder don't develop until age 7 or 8. Younger kids' brains just haven't matured enough to accept and process a lot of information. So, many kids diagnosed with APD can develop better skills with time.

Once diagnosed, kids with APD usually work with a speech therapist. The audiologist will also recommend that they return for yearly follow-up evaluations.

Problem Areas for Kids With CAPD

The five main problem areas that can affect both home and school activities in kids with APD are:

1. **Auditory Figure-Ground Problems:** when a child can't pay attention if there's noise in the background. Noisy, low-structured classrooms could be very frustrating.
2. **Auditory Memory Problems:** when a child has difficulty remembering information such as directions, lists, or study materials. It can be immediate ("I can't remember it now") and/or delayed ("I can't remember it when I need it for later").
3. **Auditory Discrimination Problems:** when a child has difficulty hearing the difference between words or sounds that are similar (COAT/BOAT or CH/SH). This can affect following directions, and reading, spelling, and writing skills, among others.
4. **Auditory Attention Problems:** when a child can't stay focused on listening long enough to complete a task or requirement (such as listening to a lecture in school). Kids with CAPD often have trouble maintaining attention, although health, motivation, and attitude also can play a role.
5. **Auditory Cohesion Problems:** when higher-level listening tasks are difficult. Auditory cohesion skills — drawing inferences from conversations, understanding riddles, or comprehending verbal math problems — require heightened auditory processing and language levels. They develop best when all the other skills (levels 1 through 4 above) are intact.

How Can I Help My Child?

Strategies applied at home and school can ease some of the problem behaviors associated with APD. Because it's common for kids with CAPD to have difficulty following directions, for example, these tactics might help:

- Since most kids with APD have difficulty hearing amid noise, it's very important to reduce the background noise at home and at school.
- Have your child look at you when you're speaking.
- Use simple, expressive sentences.
- Speak at a slightly slower rate and at a mildly increased volume.

- Ask your child to repeat the directions back to you and to keep repeating them aloud (to you or to himself or herself) until the directions are completed.
- For directions that are to be completed at a later time, writing notes, wearing a watch, and maintaining a household routine also help. General organization and scheduling also can be beneficial.

It's especially important to teach your child to notice noisy environments, for example, and move to quieter places when listening is necessary.

Other strategies that might help:

- Provide your child with a quiet study place (not the kitchen table).
- Maintain a peaceful, organized lifestyle.
- Encourage good eating and sleeping habits.
- Assign regular and realistic chores, including keeping a neat room and desk.
- Build your child's self-esteem.

Be sure to keep in regular contact with school officials about your child's progress. Kids with APD aren't typically put in special education programs. Instead, teachers can make it easier by:

- altering seating plans so the child can sit in the front of the room or with his or her back to the window
- providing additional aids for study, like an assignment pad or a tape recorder

One of the most important things that both parents and teachers can do is to acknowledge that CAPD is real. Symptoms and behaviors are **not** within the child's control. What *is* within the child's control is recognizing the problems associated with APD and applying the strategies recommended both at home and school.

A positive, realistic attitude and healthy self-esteem in a child with APD can work wonders. And kids with APD can go on to be just as successful as other classmates. Although some children do grow up to be adults with APD, by using coping strategies as well as techniques learned in speech therapy, they can be very successful adults.

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