

# ADHD vs. APD

## When an Attention Issue *is Really* an Auditory Issue



### Inattention may just be a side effect of a problem processing sound.

Some symptoms of Auditory Processing Disorder (APD) and Attention Deficit Hyperactivity Disorder (ADHD) can look similar, and it is easy for one to be mistaken for the other. However, ADHD and APD are two distinct disorders with a different internal cause.

#### Behaviors Demonstrated with ADHD vs. APD Ranked by Primary Reported Issues

ADHD	APD
1. Inattentive	1. Difficulty hearing in background noise
2. Distracted	2. Difficulty following oral instructions
3. Hyperactive	3. Poor listening skills
4. Fidgety/restless	4. Academic difficulties
5. Hasty/impulsive	5. Poor auditory association skills
6. Interrupts/Intrudes	6. Distracted
	7. Inattentive

Individuals with Auditory Processing Disorder (APD) have a neurological defect that affects the brain's ability to recognize and interpret the sounds it receives. Since these individuals struggle to process what they hear, it causes listening problems that often mimic a hearing loss. Children with APD may stop paying attention because they are having trouble understanding.

Individuals with ADHD may be poor listeners and have trouble remembering spoken information because ADHD affects the brain's ability to stay focused. However, it is the attention deficit that is impeding their ability to use the auditory information coming in, not the processing of it in the brain.

The primary concerns reported by parents and teachers also differ in children with ADHD versus children with APD. In individuals with APD, primary complaints are poor listening skills in background noise and frequent requests for clarification, whereas for individuals with ADHD the biggest concerns are complaints of inattentiveness and/or hyperactivity. Children with APD may become inattentive due to fatigue or frustration from trying to keep up with ongoing speech in the classroom. This is how APD can be misinterpreted as ADHD. The above chart can be useful to compare the type of issues most frequently reported. However, since APD and ADHD frequently coexist, distinguishing the two disorders requires multidisciplinary assessment including a battery of tests to evaluate the central auditory nervous system.

### Characteristics of APD that children with ADHD alone do not generally exhibit:

- **Children with APD often struggle to blend sounds when learning to read and may struggle to learn phonics.** Since APD affects the ability to distinguish similar-sounding sounds, this in turn, affects a child's ability to learn how letters represent those sounds.
- **Children with APD are generally able to focus and pay attention in quiet environments, while** children with ADHD tend to exhibit inattention, distractibility, and hyperactivity in any environment.
- **Children with APD may have social challenges because some types of APD affect a child's ability to interpret tone of voice,** causing them to misinterpret social cues such as sarcasm or the emotional intent of a message.

- **Children with APD may have been speech delayed** and may continue to have pronunciation issues even after they have been receiving speech-language therapy.
- **Children with APD show signs of hearing problems even though hearing tests are normal.** They frequently say “what?” or ‘huh,” and mishear things. They may not recognize subtle differences between sounds in words (i.e. “pig” “big” and “dig”) and have trouble keeping up with ongoing speech in the classroom. For example, the child may think he/she heard the teacher say “We will be bent today” when the teacher actually said “We will present today.”
- **Children with APD are often highly sensitive to sound around them.** Even in a quiet environment they may be unusually bothered by soft sounds like the ticking of a clock, humming from air conditioners, or children whispering and wiggling in their seats. They may also get upset in places with loud noises like shopping malls, and cover their ears in noisy environments. Since many children with APD have trouble screening out background noise, these distracting sounds make it very difficult to understand speech

**Only an audiologist professionally trained in specialized tests to evaluate the central auditory nervous system can diagnose or rule out auditory processing disorder.** A battery of tests must be used because there are different types of APD. Some types can be completely corrected, and some skills can improve considerably with therapy.

An example of a specific test for APD is to see how well the ears work together as a team. Sometimes the ears do not work well together to correctly code and synchronize the sounds sent to the brain. A lazy ear is a common type of APD that causes distortion because the weaker pathway is not synchronizing the speech signal appropriately. If left untreated, a lazy ear can lead to weakness in language and in learning deficits. It is important to identify children with a lazy ear because this can typically be corrected in just four treatment sessions. However, a lazy ear can easily be overlooked without specialized testing requiring the ears to compete against each other.

Another type of APD that can be completely corrected involves problems with spatial processing of sound sources. If spatial processing deficits are identified with specialized testing and treatment is obtained, then this condition can usually be corrected in just a few months.

Some children with APD are unable to direct their attention to one ear when needed in order to understand what is being said when there is competing speech coming from the other side. This can make it very difficult to focus on instruction if a teacher is on one side of the classroom and environmental sounds coming from the other side are overriding the teacher’s voice. This auditory process, called binaural separation, is not an attention issue; it is and an auditory skill that can be developed with therapy.

There are different types of APD and different treatment is needed based on each child’s profile. A full evaluation of the functioning of the central auditory nervous system is needed in order to help a child get the right type of intervention. **If you or someone you know may be struggling with APD, contact Auditory Processing Center at 601-488-4189 or visit [www.auditorycenter.com](http://www.auditorycenter.com) for more information of how an evaluation and treatment may be customized to help.**



#### References

Ferre, Jeanane M. (2016) Tips for the Differential Diagnosis of Central Auditory Processing Disorders (CAPD) Case Studies by ASHA Professional Development

Lucker J (2012) What school psychologists need to understand about auditory processing disorders. Division 16 of School Psychology, April 2012

Lucker, J. (2013) What are Auditory Processing Disorders Really All About?

Katz, J. (2007). APD Evaluation to Therapy [http://www.audiologyonline.com/articles/article\\_detail.asp?article\\_id=1803](http://www.audiologyonline.com/articles/article_detail.asp?article_id=1803)

Moncrieff, D, Keith, W, Abramson, M and Swann, A (2016) Diagnosis of amblyaudia in children referred for auditory processing assessment, International Journal of Audiology