

## **Auditory Processing Disorder (APD)**

### **What is an Auditory Processing Disorder?**

Hearing is not limited to the detection of sound signals. In fact, the detection is simply the first step of a series of auditory processes and mechanisms that are essential for the comprehension and interpretation of speech and environmental sounds. An Auditory Processing Disorder (APD) is a deficit found in one or more of those mechanisms.

Functionally, children who present with an APD have difficulties processing auditory information. They present with an inability to use certain auditory skills. It should be noted that an APD is not attributed to a hearing loss or an intellectual deficit.

### **What is the Difference Between Auditory Processing Disorder and Hearing Loss?**

Hearing loss affects the peripheral auditory system (external ear, middle ear and internal ear). It is manifested as an inability to detect sound signals, in part or completely. Children who present with an APD generally hear (detect) very well. They however experience difficulties using the auditory information that they hear. Finally, it should be added that an APD involves the superior auditory pathways and the brain.

### **What are the Symptoms of Auditory Processing Disorder?**

Children who present with an APD can have difficulties:

- Differentiating specific sounds from other sounds present in the environment.
- Recognizing and processing certain speech sounds (they can confuse similar sounds).
- Retaining information presented verbally.
- Remembering sequences (alphabet, multiplication tables, etc.).
- Understanding long and complex instructions and executing them in the given order.
- Staying focused for a period of time appropriate for the child's age.
- Selecting, from all incoming stimuli, the ones that are important.

It should be noted that an APD does not exclude the presence of other problems, such as learning difficulties, a language disorder or an attention deficit.

## **What Impact can an Auditory Processing Disorder have on Language?**

APD can have an impact on the child's language. However, it is difficult to determine its impact as a language disorder can also be present, independently of an APD. It should be noted that, depending on the affected auditory skills, the child can show deficiencies in the following areas: comprehension, "richness" of vocabulary (either receptive and/or expressive), pronunciation of certain words, phrase structures, using verb tenses, and narration (ability to tell a story, an event).

## **What Impact can an Auditory Processing Disorder have on Learning?**

An APD has important consequences on learning as the majority of information provided in the classroom is verbal. When children reach middle school, they generally demonstrate adequate auditory skills to be able to function well in class. For the child presenting with an APD, this is not the case. The child must in fact make a constant effort to listen and understand what is being said. When instructions are long and complex, the child doesn't understand as well. The child often has difficulties remembering verbal instructions. Oftentimes, the child who presents with an APD has difficulties learning to read and write.

## **What are the Causes of an Auditory Processing Disorder?**

There are various causes: head injury, meningitis, maturational delays in the brain, different neurological problems, etc. However, in the majority of cases, it's impossible to identify a cause with certainty. We don't know why the child presents with the disorder. There isn't any evidence of problems with the brain and medical history is unremarkable.

### **Ear infections and heredity**

A history of frequent ear infections at a young age is noted with many children (but not all). Also, in certain cases, other family members report having the same type of difficulties when they were young.

## **Is an Auditory Processing Disorder Permanent?**

There's no general rule pertaining to the permanence of this disorder. When the cause is neurological (often not identified), the disorder is generally permanent. For children for whom the cause of the disorder is maturational, they seem to overcome difficulties more easily. Specific intervention for the affected skills is very efficient at rapidly correcting the disorder before any important academic consequences sets in.

**Additional Resources:**

Nova Scotia Hearing and Speech Centres

<http://www.nshsc.nshealth.ca/?q=audiology/diagnostics/specialized-tests/auditory-processing-disorders>

Canadian Academy of Audiology

<https://canadianaudiology.ca/consumer/apd-in-children.html>

Speech-Language and Audiology Canada

<http://sac-oac.ca/sites/default/files/resources/APD-Children-FAQ-ENGLISH.pdf>