

## Understanding Auditory Processing and How it Affects Learning



### What is Processing?



### What are Processing Disorders?

Visual and auditory processing are the processes of recognizing and interpreting information taken in through the senses of sight and sound.

Slow or inefficient processing is referred to as visual (eyes) or auditory (ears) processing disorder.

It's important to know that **there are other names** used to refer to the same set of disorders include:

- visual or auditory **perceptual** disorders,
- visual or auditory processing **deficits**,
- **central** auditory processing disorders (CAPD),
- and other similar combinations of these terms.

### Understanding Auditory Processing Disorder

Auditory Processing Disorder (APD) makes it difficult to:

- Recognize subtle differences between sounds in words
- Tell where sounds are coming from
- Make sense of the order of sounds
- Block out competing background noises
- Process what other people are saying

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### Types of Auditory Processing Issues

#### Phonological Awareness: or Phonemic Awareness



The understanding that language is made up of individual sounds called phonemes which are put together to form the words we write and speak.

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### Signs of Phonological Awareness Weakness

Children who have difficulty with Phonological Awareness will often be unable to:

- Recognize or isolate individual sounds in words
- Recognize similarities in word sounds (rhyming)
- Be able to identify the number of sounds in a word

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### Types of Auditory Processing Issues

#### Auditory Discrimination

70 17

Auditory discrimination is the ability to recognize differences in phonemes (or sounds).  
*i.e. seventy or seventeen*

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### Types of Auditory Processing Issues

#### Auditory Figure-Ground Discrimination



The ability to focus on the important sounds in a noisy setting.

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### Types of Auditory Processing Issues

#### Auditory Memory

Auditory memory is the ability to store and recall information which was given verbally.

- May not be able to follow instructions given orally
- May have trouble recalling information from a story read aloud

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### Types of Auditory Processing Issues

#### Auditory Sequencing



Auditory sequencing is the ability to remember or reconstruct the order of items in a list or the order of sounds in a word or syllable.

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### Types of Auditory Processing Issues

#### Auditory Blending

*/c/ /a/ /t/ = cat*

Auditory blending is the process of putting together phonemes to form words.

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### Common Signs of Auditory Processing Disorder

- Find it hard to follow spoken directions, especially multi-step instructions
- Says "What?" a lot, even when has heard much of what was said
- Be easily distracted, especially by background noise or loud and sudden noises
- May misinterpret or have difficulty remembering oral directions; difficulty following directions in a series
- Has difficulty comprehending complex sentence structure or rapid speech

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### Common Signs of Auditory Processing Disorder

- Have trouble with reading and spelling, which require the ability to process and interpret sounds
- Misspells and mispronounces similar-sounding words or omits syllables; confuses similar-sounding words (celery/salary; belt/built; three/free; jab/job; bash/batch)
- Struggle with oral (word) math problems
- Find it hard to follow conversations

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### Common Signs of Auditory Processing Disorder

- Finds it difficult to stay focused on or remember a verbal presentation or lecture
- Have poor musical ability
- Find it hard to learn songs or nursery rhymes
- Have trouble remembering details of what was read or heard
- Has difficulty processing and remembering language-related tasks but may have no trouble interpreting or recalling non-verbal environmental sounds, music, etc.

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### Common Signs of Auditory Processing Disorder

- May process thoughts and ideas slowly and have difficulty explaining them
- May be confused by figurative language (metaphor, similes) or misunderstand puns and jokes; interprets words too literally
- "Ignores" people, especially if engrossed

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### Skills Affected by Auditory Processing Disorder

#### Communication:

May not speak clearly  
May drop the ends off words  
May confuse similar sounds long after peers

#### Academics:

Trouble learning to read, spell, and write  
Trouble learning vowels and phonemic awareness  
Trouble following directions

#### Social Skills:

Trouble telling and understanding stories or jokes  
May avoid conversations because it is hard for them to process what's being said and think of an appropriate response

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### Examples of Auditory Processing Disorder by the Grade

#### Preschool



Doesn't like being read to  
Hates loud noises  
Seems to hear but not listen  
Gets tripped up by words

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### Examples of Auditory Processing Disorder by the Grade

#### Elementary School



Can't stand noise  
Isn't interested in reading books  
Forgetful  
Has poor conversation skills

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### Examples of Auditory Processing Disorder by the Grade

#### Middle School



May hate reading

Has trouble following directions

Often doesn't 'get it'

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### Examples of Auditory Processing Disorder by the Grade

#### High School



Seems hard of hearing

Isn't a great communicator

Doesn't 'read between the lines'

Forgetful

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### Diagnosing Auditory Processing Disorder

Not before age 7 or 8

Have a pediatrician rule out hearing loss

Speech-language pathologist or school psychologist give tests that measure: receptive language or listening comprehension skills as well as cognitive abilities

Only a trained audiologist can diagnose

*ADP is not universally accepted as a disorder in and of itself and does not appear in the DSM V.*

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### **The Auditory Processing Disorder, ADHD, Dyslexia Connection**

Many kids with APD also have dyslexia, ADHD  
or other conditions

Recent research suggests that auditory processing issues  
maybe a contributing factor to dyslexia

The exact mechanism is unknown

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### **Treatments for Auditory Processing Disorder**

#### **Speech Therapy**

- Improve perception of individual sounds in words which can help with reading skills
- Develop active listening skills
- How to use language appropriately in social situations

#### **Reading Instruction**

A qualified educational therapist or Orton-Gillingham dyslexia tutor can help kids connect sounds to letters by clearly teaching the systems of sounds, letters, and grammar.

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### **Treatments for Auditory Processing Disorder**

#### **Auditory Training Therapy**

Considered an alternative treatment

Known as 'brain training'

Berard Auditory Integration Therapy (AIT)

Fast ForWord

Main goal of these programs is to improve listening  
comprehension through various activities or games.

Not much research to prove it works

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### Can Processing Speed Ever Improve?



For a small number of kids, their processing speed may “catch up” with their peers. This isn’t very likely, but it happens in some cases.

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### Strategies for helping Kids With Auditory Processing Disorder

Interventions must be individualized to the specific needs of the child

Do not rely solely on an area of weakness

Keep the specific area of weakness in mind

Plan specific remediations or activities for the areas of difficulty

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### Accommodations for Students With Auditory Processing Disorder

- Close doors and windows to minimize outside noise
- Use images and gestures to reinforce understanding and memory
- Show rather than explain
- Use simple, one-step directions or provide a check list
- Ask specific questions as you teach to find out if they do understand

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**Accommodations for Students  
With Auditory Processing Disorder**

- Supplement with more intact senses (use visual cues, signals, handouts, manipulatives)
- Reduce or space out directions. Give cues such as “ready?”
- Reword confusing oral or written directions
- Teach abstract vocabulary, word roots, synonyms/antonyms
- Vary pitch and tone of voice, alter pace, stress key words

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**Accommodations for Students  
With Auditory Processing Disorder**

- Ask your child to repeat directions back to you. If he'll need to act on the directions later, ask him to write notes to remind himself.
- Allow them 5-6 seconds to respond ("think time")
- Have your child constantly verbalize concepts, vocabulary words, rules, etc.
- Have your child look at you when you're speaking
- Speak at a slightly slower rate and at a slightly higher volume.

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**Assistive Technology for Students  
With Auditory Processing Disorder**

Text-to-speech software - audio books

Noise cancelling headphones

Captioning

Audio recorders

Personal listening devices

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**Last thoughts**

One day at a time

Keep learning and applying that to how you teach

Help them find their areas of strength



[HomeschoolingWithDyslexia.com](http://HomeschoolingWithDyslexia.com)

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