

# CENTRAL AUDITORY PROCESSING DISORDER

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**DEFINITION:** Even though a person has normal hearing, they have difficulty in processing spoken language. It affects a person's ability to understand spoken language, analyze it, interpret it, and store it. They don't process sounds as fast as others. It takes them a bit longer to understand what is heard. They end up missing a word or phrase, get lost and can't keep up. The cause is unknown.

**CAPD vs. APD:** Central Auditory Processing Disorder and Auditory Processing Disorder are interchangeable. Other names are auditory perception, central deafness, word deafness, auditory comprehension deficit, and auditory perceptual processing dysfunction.

**BEHAVIORAL CHARACTERISTICS:** difficulties in speech, language, spelling, reading, comprehension, vocabulary, and learning.

- Has trouble paying attention, listening
- Misunderstands oral directions, questions, spoken information
- Easily distracted by background noise
- Asks questions to clarify, needs information repeated.
- Has poor memory
- Has trouble telling the difference in sounds, if they are alike or different
- Has poor phonics skills
- Doesn't get the big picture, needs to ask questions to understand.
- Interprets things too literally.
- Can't communicate well, others can't follow their train of thought, omits facts, changes topics.
- Can't summarize information or prioritize.
- Trouble with cause and effect reasoning.
- Trouble with nuances in conversation, unspoken rules of play, conversation and situations.

## **SKILLS AFFECTED IN SCHOOL:**

- Phonological awareness: ability to distinguish sounds in words, the number of sounds, similarities/differences. Problems in reading, spelling, and writing.
- Auditory discrimination: ability to tell if a word or sounds if the same or different.
- Auditory memory: ability to store information and retrieve it. Problems in following directions, spelling words, participating in discussions, note taking, remembering assignments.
- Auditory figure-ground discrimination: ability to understand oral language with noise in the background.

- Auditory sequencing: able to recall the order of spoken sounds or words in a series. May confuse syllables (bizgetti for spaghetti)
  - Auditory blending: able to combine isolated sounds into words.
- By fourth grade these skills are usually developed, but not in a CAPD child.

**IDENTIFICATION:** Team of parent, teachers, school psychologist, audiologist, speech-language specialist is needed to identify CAPD.

NEED to RULE OUT:

- A learning disability
- Speech/language disorder
- English Second Language Learner
- IQ limited
- Hearing loss/problems
- Health problem
- Medication side effects
- ADD/ADHD
- Emotional problem
- Motivation problem
- Listening selectively
- Acoustics of a room
- Change in the family (divorce)
- Listening expectations beyond age level

**ASSESSMENT:** Symptom has existed for a period of time, in many settings (home, school, community, outside activities), below what is normal for a child's age, interferes with his school work.

School Psychologist: IQ test to compare verbal and performance scales looking for discrepancies. Auditory skills tested.

Speech-language Specialist: standardized language tests on articulation, vocabulary, concepts, and sentence recall, understanding paragraphs, able to follow directions.

Observation: Memory, discrimination of words, figure-ground discrimination (can't focus with background noise).

Audiological screening: school nurse > doctor.

Our central auditory processing system isn't mature until 11 to 14 years old.

Remediation will help the sooner the better.

**MODIFICATIONS AT SCHOOL:**

- Get child's attention before giving directions or assignments.
- Stand still, face the child, speak distinctly at a moderate rate, use interesting expression, and gestures.
- Give instructions when the room is quiet; allow talking one at a time.
- Allow more time for child to respond to questions.
- Go over new vocabulary, simplify, allow him to ask questions.

- Have a visual (pictorial) example of concept, written directions, demonstrate concept, and give concrete example.
- Explain complex directions in small chunks; allow time to complete the 1<sup>st</sup> step, then go on to the next step.
- Give him 2 – 3 main points to listen for prior to a discussion, then check his comprehension and memory of them.
- Work with his strengths to give him information: if visual learner (put info in writing, use closed caption TV, videos, overheads projector, whiteboard, handouts, student notetaker), if hands-on-learner (give concrete examples, demonstrate what to do).
- Allow preferred seating (close to teacher, front of room, away from noises such as pencil sharpener, doors, windows, fan, heater).
- Allow breaks during or after listening activities.
- Check noise level of the room.
- If child needs quiet while working, allow headphones or earmuffs.
- To teach processing skills, allow child to go to speech-language therapy.
- Help child learn to refocus when off track.
- Emphasize child's strengths to give him confidence.

#### **MODIFICATIONS AT HOME:**

**Parents:** Have eye contact, quiet voice and body before giving directions.

When speaking to child, check that there is no competing noises in the background such as TV, radio, dogs barking.

Use visuals: list of chores

Demonstrate what is to be done, saves a lot of explanations.

Have child repeat or explain what he is to do before he goes off to do it.

Encourage child to ask questions to clear up confusion or misunderstandings.

Explain in a different way.

Have child repeat directions out loud to help memory.

Cue child that he has lost his focus and redirect it.

Build the child up with praise and emphasize their strengths.

**Child:** Keep eyes on speaker, have eye contact.

Have good listening behaviors: quiet body, closed mouth.

Ask questions, have directions repeated if you are confused or unsure.

Have teacher explain vocabulary you don't understand or look up in a dictionary.

Visualize or picture the information in your mind.

Write assignments down.

#### **NEW TREATMENTS:**

1. **AIT:** Auditory Integration Training

It is a 10 day 20 half-hour program of modulated music, individually filtered for each person's sound sensitivities to stimulate the auditory system. It is for people with unusual sensitivity to specific sounds. These people startle easily to sounds others tolerate (hair dryers, vacuums, children crying, shrieking, loud movies, TV show, loud crowds), distracted by soft distant sounds most people don't notice,

have noticeable behavior changes like coming unglued when noise levels are high (parties, school assemblies, indoor sports events)

**STORIES OF 2 CHILDREN:** see attachment

**WEBSITES:**

American Speech-Language-Hearing Association [www.asha.org](http://www.asha.org)

Schwab Learning [www.schwablearning.org/articles.asp?r=376](http://www.schwablearning.org/articles.asp?r=376)

[www.schwablearning.org/articles.asp?r=373](http://www.schwablearning.org/articles.asp?r=373)

National Institute on Deafness and Other Communication Disorders

Auditory Processing disorder in Children: What Does It Mean?

[www.nidcd.nih.gov/health/voice/auditory.asp](http://www.nidcd.nih.gov/health/voice/auditory.asp)

[http://kidshealth.org/parent/medical/ears/central\\_auditory.html](http://kidshealth.org/parent/medical/ears/central_auditory.html) (info on APD)

[http://www.ldonline.org/ld\\_indepth/process\\_deficit/capd\\_paton.html](http://www.ldonline.org/ld_indepth/process_deficit/capd_paton.html) (info for parents)

[http://capdlinks.homestead.com/AA\\_index\\_ZZ.html](http://capdlinks.homestead.com/AA_index_ZZ.html) (APD info)

Learning Disabilities Association [www.ldanat@usaor.net](mailto:www.ldanat@usaor.net)

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