

Auditory Processing Disorder (APD)

Has an audiologist or physician told you that your hearing is within normal limits, but you still have difficulty understanding people? You may be experiencing symptoms of an auditory deficit known as Auditory Processing Disorder, or APD.

What is APD?

APD is a condition that disrupts how the brain processes spoken language. Individuals with APD do not recognize subtle differences in sounds even when they are loud and clear. Difficulties associated with APD can become more pronounced in difficult listening environments or when listening to complex information.

What symptoms does APD cause?

- Difficulty localizing sound
- Difficulty understanding spoken language in competing messages, background noise, and in reverberant environments
- Taking longer to respond in oral communication situations
- Struggling to pay attention
- Tire easily when engaged in listening tasks for extended periods
- Often look for visual cues to fill in the gaps missed through oral information
- Misinterpret messages, such as detection of rhythm changes used in sarcasm or jokes

What causes APD?

- Neurological disorder, disease, or damage
- Age-related changes in Central Auditory Nervous System (CANS) function
- Possible link to a specific disorder or lesion, or may be unknown

How is APD diagnosed?

An audiologist will first complete a comprehensive hearing evaluation to rule out hearing loss. The audiologist will proceed with a series of advanced listening tests to evaluate the integrity of the brain's several listening processes. One or several of these processes may be affected in APD, including:

- Sound localization and lateralization
- Temporal aspects of audition/timing cues
- Auditory pattern recognition
- Auditory performance with competing noises or with degraded signals
- Auditory discrimination

Jefferson Balance & Hearing Center

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The audiologist may also conduct electrophysiology testing where sticker electrodes are placed on the skin to evaluate how well the sound is traveling from the ears up to the brain.

How is APD treated?

Treatment is determined based on the specific auditory processing deficits that exist. Treatment plans typically consist of environmental modifications, compensatory strategies, assistive listening devices (ALDs) to improve access to auditory information and auditory training or therapy. Accurate and cautious diagnosis by an audiologist is key to treatment.

What can be done now?

- Eliminate distracting noise (i.e. TV) before communicating
- Get your communication partner's attention before speaking to them
- Rephrase, not repeat
- Incorporate relaxation techniques to clear the mind before engaging in conversations
- Utilize hearing aids or ALDs
- Join support groups in-person and online
- See back for aural rehabilitation resources

Local practices for further evaluation:

Aberdeen Audiology

Thomas Goyne, AuD
230 Sugartown Rd Ste 10, Wayne, PA 19087
(610) 688 - 6003

Collegeville Speech and Hearing, LLC

Debbie Lombardi, AuD
555 Second Ave, Suite D-204
Collegeville, PA 19426

Pennsylvania Ear Institute

Amanda Ayars, AuD
8380 Old York Rd, Ste 110B
Elkins Park, PA 19027
(215) 780 - 3180

**Cost of APD testing is not currently covered by insurance*

ARTICLES:

Moore, D. R. (2006). Auditory processing disorder (APD): Definition, diagnosis, neural basis, and intervention. *Audiological Medicine*, 4(1), 4-11.
<https://www.tandfonline.com/doi/pdf/10.1080/16513860600568573?needAccess=true>

American Speech–Language–Hearing Association. (2005). ASHA. (Central) auditory processing disorders.
<https://www.phon.ucl.ac.uk/courses/spsci/audper/ASHA%202005%20CAPD%20statement.pdf>

APPS/RESOURCES:

Auditory Figure Ground AFG – works on SNR

Cost: \$24.99

Link: <https://apps.apple.com/us/app/auditory-figure-ground-afg/id494130255>

Available: apple products

Ages: 4+

Auditory Workout (SLP developed)

Cost: \$24.99

Link: <https://itunes.apple.com/us/app/auditory-workout/id518697520?mt=8>

Available: apple products

Ages: 4-12 years old

AVA—live Captioning App

Cost: Free (Free plan caption up to 5 hours every month / Premium Plan unlimited - \$28.99 a month)

Link: <https://www.ava.me/download/?id=ian&code=S8lAgNMMqE>

Available: both apple and android

Ages: All

Hear Coach (Starkey)

Cost: Free

Link: <https://itunes.apple.com/gb/app/hear-coach/id489515928?mt=8>

Available: apple products

Ages: 4+

Languages: English, French, German, Italian

I Angel Sound (UCLA)

Cost: Free

Link: <https://itunes.apple.com/us/app/i-angel-sound/id839199212?mt=8>

Available: apple products

Ages: 4+

LACE

Cost: \$79 for online/tablet use

Link: <https://www.neurotone.com/lace-interactive-listening-program>

Available for apple/android

Listen (UC Riverside)

Cost: Free

Link: <https://itunes.apple.com/us/app/listen-an-audio-training-experience/id1031353626?mt=8>

Available: apple product

Ages: 4+

Live Caption —Live Captioning Unlimited

Cost: \$2.99 / a month

Link: <https://apps.apple.com/us/app/live-caption/id955278049>

Available: apple products

Ages: All