

WHAT IS AUDITORY PROCESSING DISORDER (APD)?

“Auditory processing disorder is a hearing disorder that results from atypical processing of auditory information in the brain. Auditory processing disorder is characterised by persistent limitations in the performance of auditory activities and has significant consequences for participation.” [1]

APD is a recognised condition in the WHO International Classification of Diseases, Tenth Revision, Clinical Modification (2018 ICD-10-CM Code 93.25 – Central auditory processing disorder).

SIGNS THAT A PATIENT MAY HAVE APD

- Low academic performance particularly in reading and spelling.
- Difficulty following multi-step oral instructions.
- Difficulty understanding speech in the presence of background noise.
- Inconsistent or inappropriate responses to questions.
- Frequent requests for repetition.
- Seem to hear but not understand what people say.
- Difficulty with sound direction and localisation.
- Poor auditory memory.

PREVALENCE

Worldwide it is estimated that 2-3% of children are affected (Chermak & Musiek, 1997) [2], however, the prevalence of APD in NZ children is estimated to be higher at 6.2% (Esplin & Wright, 2014) [3]

WHAT TO DO IF YOU SUSPECT A PATIENT HAS APD

- Refer them for a diagnostic hearing test, the audiologist will advise whether APD testing is recommended based on the test results and history/concerns.

ASSESSMENT

- Test battery includes:
 - > History and questionnaires
 - > Full audiogram and Otoacoustic emissions (OAE's)
 - > Dichotic listening – processing information presented to both ears at the same time
 - > Frequency discrimination/pattern perception – identifying different pitch patterns
 - > Temporal processing – processing of acoustic stimulus over time
 - > Spatial listening – using spatial cues about where a sound originates
 - > Perception of speech in noise – listening in background noise
 - > Auditory memory – remembering auditory information
- Consideration of co-morbidities – e.g. language, vision, medical history

EFFECTS ON PARENTS AND CHILDREN

- Parents are often worried and need support.
- Children with APD have more psychosocial difficulties.
 - > Children report greater emotional and overall health difficulties.
 - > Parents report that their children experience greater psychosocial difficulties [4]

MANAGEMENT

Audiologists work collaboratively with other professionals as required, this may include speech language therapists, psychologists, paediatricians, optometrists and teachers. Remote microphone hearing aids can be prescribed if a diagnosis of APD is found, these systems help overcome distance, reverberation and background noise in the classroom. An Audiologist can advise on the suitability of this option and the availability of Ministry of Health and ACC funding should certain criteria be met. Other management approaches, such as auditory training, classroom and compensatory strategies can also be considered on a case by case basis, at the recommendation of an Audiologist.

REFERENCES

[1] New Zealand Guidelines on Auditory Processing Disorder (Draft, April 2017). Ministry of Education, Ministry of Health and NZAS.

[2] Chermak, G., & Musiek, F. (1997). Central auditory processing disorders: New perspectives. San Diego: Singular

[3] Esplin, J., & Wright, C. (2014). Auditory Processing Disorder: New Zealand Review. <http://www.health.govt.nz/publication/auditory-processing-disorder-new-zealand-review>

[4] Kreisman, N. V., John, A. B., Kreisman, B. M., Hall, J. W., & Crandell, C. C. (2012). Psychosocial status of children with auditory processing disorder. *Journal of the American Academy of Audiology*, 23(3), 222-233. doi:10.3766/jaaa.23.3.8