Title: **Auditory Processing Disorders in Adults: Evidence-Based Identification**

Presentation Type: Power point Zoom

**Abstract:**

Auditory Processing Disorders (APDs) have been a challenge for audiologists for decades. Audiologists need evidence-based testing and treatment options specific to adults because their needs are different from children. Best clinical practice for APD in adults is based in functional assessment and functional rehabilitation, the specifics of each are presented.

The assessment, identification, and treatment of auditory processing disorders (APDs) began with a medical model based on site of lesion in adults which eventually led to a communication model based on developmental and educational abilities in children. Audiologists today, however, need a functional model based on whether, or not, their patient has an auditory component to their communication problems. Further, over the past several years, much of the clinical research has provided models of APD based on broader auditory-cognitive communication components that address functional abilities that form the basis of the work presented here.

For adults, the original basis for APD identification, i.e., site of lesion testing, was behavioral tasks designed to tap auditory cortical function to identify temporal lobe lesions prior to the use of imaging techniques widely available today. It is some of these very same tests we use today to identify functional deficits in central auditory processing. One of the most important differences between children and adults with regard to APD is the etiology of their hearing problems. In adults, most APDs are the result of head injury from motor vehicle accidents, falls, sports, etc. that are not identified by standard audiologic assessment (i.e., the audiogram and word recognition in quiet). Thus, the cause and treatment of these hearing problems must consider auditory processing deficits identified in the APD evaluation and rehabilitation process. A more current view of APD would be to look at the functional areas of difficulty for our patients and to facilitate an improvement in function.

This presentation is designed to look at the current status of APD in adults. It will cover the definition, symptomology, testing, and treatment of teens and adults with APD.

APD in adults is focused around identifying whether, or not, there is an auditory component to their hearing complaints. Auditory processing is assessed monaurally and binaurally, with speech and non-speech stimuli, and in noise and in quiet. Most adults presenting for APD evaluation experience persistent post concussive symptoms and particular attention is paid to how their receptive communication skills have changed following the injury.

Identification of APD, as recommended by both ASHA and AAA, is based on abnormal performance on at least two parts of the APD evaluation. In adults, the identification of APD is more challenging, due to a lack of standardized adult APD protocols, and must be based on a clear understanding of how an adult with a similar audiogram would perform on a particular set of tests. Research has shown there is no cookie-cutter set of tests that can be used with each patient and that an individualized assessment should be performed.

Adult APD services must be widely available in audiology clinics because there is no other profession with the expertise to evaluate and treat auditory processing problems. Failure to serve adults with APD results in reduced employment opportunities, increases communication failures with others (i.e., family members), and social isolation, especially as a result of a head injury. Treatment and recommendations are based on functional difficulties and tailored to support the educational, employment, and interpersonal communication needs of the individual.

**Learning Objectives**

After attending this presentation, attendees will be able to:

1. Discuss the history of APD testing and how it applies to current testing and treatment
2. Identify test protocols and treatment methods for adults with suspected APD
3. Compare and contrast a variety of tests and treatment options for adults with APD

**References:**

American Academy of Audiology. (2010). Clinical practice guidelines: Diagnosis, treatment and management of children and adults with central auditory processing disorder. American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: American Psychiatric Publishing.

American Speech-Language Hearing Association. (2005). (Central) auditory processing disorders, technical report: Working group on auditory processing disorders. Rockville, MD.

American Speech-Language-Hearing Association. (2005). The role of speech-language pathologists in the identification, diagnosis, and treatment of individuals with cognitive-communicative disorders: position statement. Available from [www.asha.org/policy](http://www.asha.org/policy).

Byom, L.J., & Turkstra, L. (2012). Effects of social cognitive demand on Theory of Mind in conversations of adults with traumatic brain injury. *Int J Lang Commun Disord, 47*(3):310-321. Lew, H.L., Jerger, J.F., Guillory, S.B., Henry, J.A. (2007). Auditory dysfunction in traumatic brain injury. *J Rehabil Res Dev, 44*(7):921-28.

Johnson, J.E., & Turkstra, L.S. (2012). Inference in conversation of adults with traumatic brain injury. *Brain Inj, 26*(9):1118-1126.

Leigh-Paffenroth, E.D., Roup, C.M., Noe, C.M. (2011). Behavioral and Electrophysiologic Binaural Processing in Subjects with Symmetrical Hearing Loss, Journal of the American Academy of Audiology, 22(3), 181-193.

Leigh-Paffenroth, E.D. and Elangovan, S. (2011). Temporal Processing in Low-Frequency Channels: Effects of Age and Hearing Loss in Middle-Aged Listeners, Journal of the American Academy of Audiology 22(7), 393-404.

Oleksiak, M., Smith, B.M., St. Andre, J.R., Caughlan, C.M., & Steiner, M. (2012). Audiological issues and hearing loss among veterans with mild traumatic brain injury. *J Rehabil Res Dev, 49*(7):995- 1004.

Roup CM, Leigh ED. (2015) Individual Differences in Behavioral and Electrophysiologic Measures of Binaural Processing Across the Adult Lifespan. *American Journal of Audiology* 24:204-215.

Roup, CM, Post, E., & Lewis, J. (2018). [Mild-gain hearing aids as a treatment for adults with self-reported hearing difficulties.](https://u.osu.edu/sralab/publications/mild-gain-hearin%E2%80%A6ing-difficulties)  *Journal of the American Academy of Audiology, 29:*477-494*.*

Schuknecht, H.F., & Gacek, M.R. (1993). Cochlear pathology in presbycusis. *Ann Otol Rhinol Laryngol, 102*(1 Pt 2):1-16.