SEPTEMBER 2026

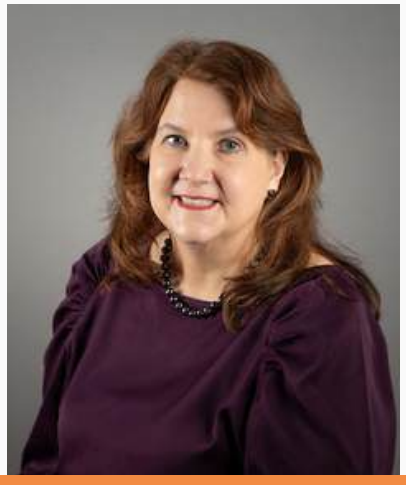
NEUROAUDIOLOGY NEWSLETTER

Editor: Alyssa Davidson, AuD, PhD
Co-Editor: Amy Bradbury, AuD
Founder: Frank Musiek, PhD

Welcome to the NeuroAudiology Newsletter Team!

We are excited to welcome Dr. Annette Hurley-Larmeu to the newsletter team! Dr. Hurley-Larmeu will soon take over the CAPD Corner, bringing her expertise in central auditory processing disorders to our readers. This is an exciting opportunity for the newsletter, as she currently serves as Professor, Department Head, and Audiology Program Director at LSU Health Sciences Center. Her career has been shaped by mentorship from some of the field's most respected figures, including Chuck Berlin, Jack Katz, and Linda Hood. With her extensive publication and teaching record—particularly in central auditory processing disorders—she will be a wonderful addition to our team.

Her research journey began with a fascination for patients whose listening difficulties couldn't be explained by the audiogram alone, leading her through work on otoacoustic emissions, auditory neuropathy, and clinical electrophysiology. Over time, her focus expanded to auditory processing disorders, auditory plasticity, and auditory training, and more recently to aging, cognition, and cortical auditory function. Throughout this journey, she has remained dedicated to translating neuroscience into meaningful clinical care and to mentoring the next generation of audiologists. We're thrilled to have her insight and experience represented in our pages.

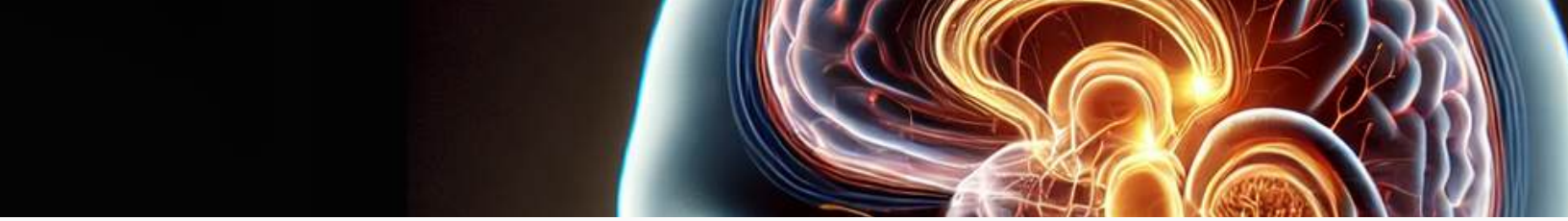


Audiology Trivia

1. In what year did students first enroll in the AuD?
a) 1988, b) 1989, c) 1996, d) 1998

2.**Occulomotor nuclei triggering lateral eye movements are located in what strucutre?**
a) Pons, b) Midbrain (mesencephalon), c) Thalamus, d) cerebellum

3.**The Gaps in Noise (GIN) primarily tets which temporarl process?**
a) resolution, b) masking, c) sequencing, d) integration



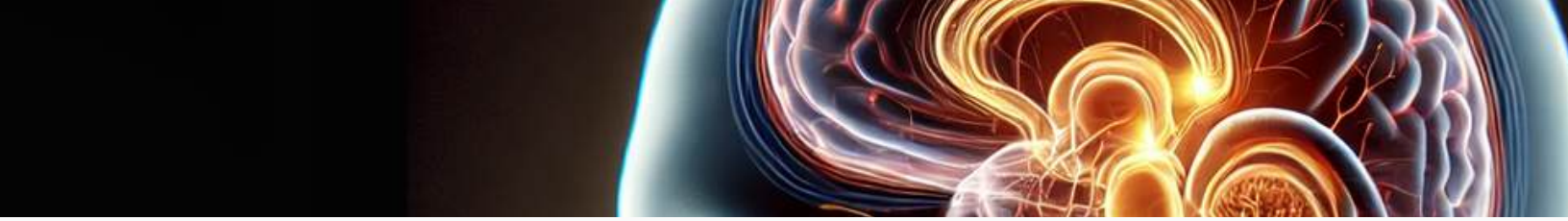
Case Studies of Auditory Processing Assessment and Management for Veterans

AUTHOR: MELISSA PAPESH: US DEPT OF VETERANS AFFAIRS REHABILITATION RESEARCH AND DEVELOPMENT, NCRAR
PUBLISHED AUGUST 2026 IN THE JSLHR
PERSPECTIVE BY AMY BRADBURY

Clinical care for patients who report substantial hearing difficulties despite having little or no hearing loss is a topic of great debate within and beyond audiology. A recent article reviewed five case studies selected from a previously published retrospective review of medical records obtained from 100 patients evaluated for APD across the VA health care system. The article highlighted that military service members are at increased risk of acquired auditory processing deficits due to neurological hazards such as exposure to blast discharges, traumatic brain injury, and neurotoxic exposures to substances such as jet fuel. Additionally, a particularly notable finding to emerge from this data is the high degree of medical complexity among this patient population, with more than half of patients having diagnosis of TBI, mental health conditions, and/or sleep disorders, and highlights the value of a multidisciplinary team of clinicians working together to coordinate and monitor care for patients with complex medical issues.

The selected case studies revealed considerable diversity in patient experience and approach to care for these veterans. Reportedly, some patients experienced well-coordinated care across medical departments, while others experienced repeated barriers and high burdens of self-advocacy while trying to navigate the health care systems. Interviews with patients seeking help for hearing difficulties despite normal hearing sensitivity reveal that the lack of clear diagnosis or concrete treatment recommendations contributed to feelings of dismissal, confusion, and anxiety.

Differences in the approach of audiologists and speech-language pathologists were also highlighted, including differing emphasis on diagnostic tests versus self-report measures and use of top-down versus bottom-up rehabilitation tools. Reviews illustrated the benefits of strong collaboration between SLPs and audiologists, with SLPs focusing on top-down training that stresses the importance of cognition and compensatory strategies and devices to improve daily listing, while audiologists focused on a bottom-up approach to rehabilitation that may incorporate auditory devices such as low-gain hearing aids. The case studies detailed here also reveal the need for additional research, education, and outreach, across medical disciplines on how health conditions such as TBI may impact auditory function and the role that audiologists play in rehabilitation.



NeuroAudiology/CAPD Corner

TOPIC: ELECTROPHYSIOLOGICAL EVOKED RESPONSE CONTRIBUTIONS TO ASSESSMENT OF AUDITORY PROCESSING

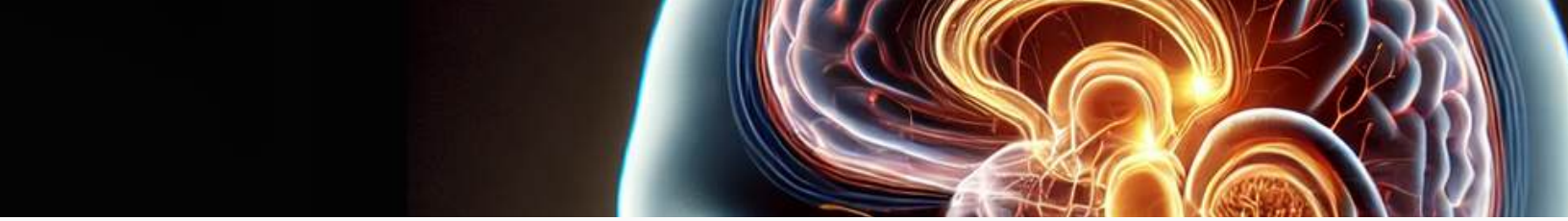
AUTHOR: BILL KEITH, PHD

Although electrophysiological testing methods have not yet demonstrated adequate predictive efficiency for diagnosis of most cases of central auditory processing disorder (CAPD) they play a critical clinical role in detecting cases where central auditory processing deficits are a consequence of neurological disorders, lesions, or trauma. Electrophysiological measures are also invaluable tools for auditory processing research.

Research has shown differences in group data for all classes of evoked potentials when comparing children with CAPD to typically developing children. Evoked potentials thus show tantalising promise for the objective diagnosis of central auditory processing disorders but so far, a high degree of overlap of score ranges between experimental and control groups precludes this (Kumar & Singh, 2015; Mattsson et al, 2019). A review of studies of Long Latency Auditory Evoked Responses in CAPD similarly reported some positive findings in distinguishing groups but also issues with variability of results (Macaskill et al, 2022). In one of the more promising studies on diagnostic efficacy Rocha-Muniz et al (2014) showed moderately promising predictive efficiency for some speech ABR metrics, but specificities of 0.40-0.68 meant there was a cost of 32-60% false positives. In clinical practice confirmation bias can lead us to attribute any abnormal aspect of an evoked response result to the condition being tested, but low specificity reduces the validity of such clinical decision-making.

Sensitivity and specificity might be improved by examining evoked response results in specific sub-types of CAPD rather than in heterogenous participant groups. Different metrics, such as spectral magnitude and global field power for example, might prove to better differentiate individuals. Within-subject measures such as monaural vs binaural and slow rate vs fast rate could potentially help overcome drawbacks of overlapping inter-subject variability. Schochat, Musiek, Alonso and Ogata (2010) suggested that potential for diagnostically useful markers in middle latency responses may be found in within-subject measures such as ear and hemispheric differences. A recent middle latency response study on children with specific CAPD subtypes exemplifies this.

Babaee and Moncrieff (2026) examined the middle latency response to regular and fast stimulus rates in typically developing children and children with distinct sub-types of dichotic disorder; amblyaudia (abnormal unilateral weakness on dichotic testing), and dichotic dysaudia (binaurally reduced dichotic scores). Specifically they included children with (more common) right dominant amblyaudia and excluded children with left-dominant amblyaudia so as not to confound detection of ear and hemisphere-specific responses. They found differing results between groups according to CAPD sub-type, and distinct ear and hemispheric response differences mirroring behavioural results. Hemispheric differences in response amplitude differentiated the amblyaudia but not dichotic dysaudia group. Fast stimulus rate results differentiated the dichotic dysaudia but not amblyaudia group.



NeuroAudiology/CAPD Corner

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AUTHOR: BILL KEITH, PHD

Acoustic reflexes are another electrophysiological response affected by CAPD. The Jerger acoustic reflex patterns (Jerger & Jerger, 1977) are well known as markers for eighth nerve and brain stem disorders. Acoustic reflex thresholds are frequently elevated or absent in CAPD (Allen & Allan, 2014) but, as with other auditory evoked responses, variability limits clearcut diagnostic decision-making. A within-subject measure, growth of the acoustic reflex as a function of stimulus intensity, appears to better differentiate typically developing and suspected CAPD groups (Saxena, Allan & Allen, 2015), with reduced amplitudes in the suspected CAPD participants. A drawback of some acoustic reflex studies is the presentation of acoustic reflex growth data in dB SL relative to acoustic reflex threshold instead of dB HL or dB SPL. Thus, the actual stimulus intensities are indeterminate. Sensation Level data obscure the full picture. There is also disparity in research findings between studies. Whereas Saxena et al showed reduced reflex amplitude growth in suspected CAPD, Hunter et al (2023) using wide band absorbance reflex measurement showed steeper acoustic reflex growth curves in suspected CAPD. Nonetheless, acoustic reflex amplitude growth, and related latency, is a promising research avenue.

It is clear that there are electrophysiological correlates of central auditory processing deficits. It will hopefully only be a matter of time before methods will be developed to reliably distinguish between typical and atypical central auditory function in individuals. Not only would this add an objective cross-check and even more certainty to clinical diagnosis, but it would also help quell assertions that CAPD is a language or cognitive rather than auditory disorder.

NeuroAudiology/CAPD Corner References

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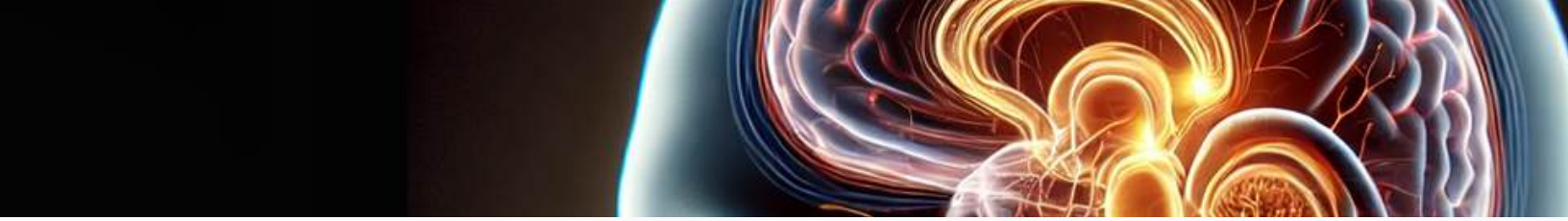

Upcoming Conferences

American Speech-Language Hearing Association
November 19-21, Indianapolis, IN
Acoustical Society of America
December 15-17, Baltimore, MD

Auditory Processing Bootcamp

Join Drs. Jennifer Shinn, Frank Musiek, Trey Cline, and Matthew Bush to advance your knowledge and skills evaluating and testing auditory processing!
October 22-24, 2026 at the University of Kentucky, Department of Otolaryngology
--Interactive Lectures
--Hands-on-Training
--Small Group Setting
Contact: Jennifer.Shinn@uky.edu
Register: https://ukyboxoffice.vivenushop.com/event/capd-bootcamp-wfror7

Trivia Answers

1. (C) Students first enrolled in the AuD in 1996.
2. (B) The Occulomotor nuclei is located in the midbrain.
3. (A) The GIN pimarily tests temporal resolution.

Learning Corner

The learning corner will offer citations of articles that may contribute to one's knowledge base for CAPD/NeuroAudiology.

- Davidson, A. J., Jedrzejczak, W. W., McCullagh, J., Ferre, J. M., Bradbury, A., Palmer, S. B., ... & Musiek, F. E. (2026). Expert Evaluation of Artificial Intelligence Chatbots for Central Auditory Processing Disorder Information. American Journal of Audiology, 35(2), 668-679.
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- Atayeva, G., Myradov, D., & Saginbekov, S. Pathophysiological Mechanisms Linking Noise Exposure and Hidden Hearing Loss in Susceptible Individuals: A Systematic Review.