

# Neuroaudiology Newsletter

Editor: Alyssa  
Davidson, PhD, AuD,  
CCC-A  
Supervisor: Frank  
Musiek, PhD, CCC-A

## Congratulations to Award Winners!

The editor-in-chief and editors of *Perspectives of the ASHA Special Interest Groups* selected the article, “A Clinically Valuable Interaction in the Midst of COVID-19 and Beyond: A Viewpoint on the Importance of Patient-Centered Outcomes in Rehabilitative Audiology” as one of the 2021 Editor’s Award winners. This is a high honor as the selection of these awards are limited to the most impactful works that meet the highest quality standards in research design

## AUDIOLOGY TRIVIA

### ANSWERS ON THE LAST PAGE

- 1) The SP/AP ratio consistent with Meniere’s disease is?  
a) 0.1, b) 0.2, c) >0.3, d) >0.4
- 2) The length of the adult human auditory nerve is?  
a) 10-12mm, b) 22-25mm, c) 28-32mm, d) 36-40mm
- 3) A typical amplitude for ABR wave V for an 80 dBnHL click stimulus is approximately...?  
a) 0.2-0.3microvolts, b) 0.6-0.8, c) 1.2-1.4, d) 1.6-1.8

and presentation. Authors of this article are Alyssa Davidson, PhD, AuD, CCC-A (editor of the newsletter) and Nicole Marrone, PhD, CCC-A. As the title suggests, this article describes the importance of using patient-centered outcomes in clinical practice and how decision trees can be utilized to implement the outcomes directly into practice.



### A Clinically Valuable Interaction in the Midst of COVID-19 and Beyond: A Viewpoint on the Importance of Patient-Centered Outcomes in Rehabilitative Audiology

Alyssa Davidson<sup>a</sup> and Nicole Marrone<sup>a</sup>

**Purpose:** In this article, we describe the problems that patients and audiologists face today during the COVID-19 pandemic when accessing and delivering hearing health care. Additionally, we introduce a proactive rehabilitative counseling approach to hearing aid follow-up care now and how it may continue in future practice.  
**Method:** Combining current literature, clinical practice, and results from a recent dissertation study, decision trees were created to guide patient engagement and prioritize follow-up care.  
**Results:** The central focus is on patient-centered communication needs and self-efficacy. The benchmark

for the Measure of Audiologic Rehabilitation Self-Efficacy for Hearing Aids questionnaire is set at an 80% composite score, with further interpretation of subscales to identify the format and focus of subsequent clinical interactions. Follow-up care can be delivered remotely during the COVID-19 pandemic and in hybrid formats combining remote and in-person services in the future.  
**Conclusions:** Audiology follow-up appointments may be elective, but patients are still in need of clinician interaction to help mitigate social isolation. We suggest that audiologists reach out to proactively manage communication needs of patients through increased access to rehabilitative audiology.

# CENTRAL AUDITORY PROCESSING DISORDERS CORNER



Topic: Corpus Callosum

Myelination of the corpus callosum has a long maturational course ranging from birth to the teenage years. The maturational course is strongly correlated to myelination of the corpus callosum, which is in turn, correlated to left ear performance on dichotic listening tasks. For example, typically developing children at age 7 years will show marked left ear deficits (or if you wish, marked right ear advantage). As these children grow older, left ear performance improves up to the age of 11 or 12 years, while during this time, the right ear performance remains about the same. Normative data should reflect these trends.

Adults will generally show a slight right ear advantage for dichotic listening, and this is maintained until approximately age 55-60 when left ear deficits again start to emerge and often progress with increased age. The trend – you guessed it – is correlated with decreased myelin in the corpus callosum accompanying aging. This information can be of considerable value in assessing dichotic listening results in both adults and children. It also speaks to the importance of age-related norms for various dichotic listening tasks used in clinical evaluation.

## CAPD Corner Suggested Readings

- The Parallel Brain, by Zaidel and Iacoboni, MIT Press (2004)
- Musiek, F. & Weihing, J. (2011). Perspective on Dichotic Listening and the Corpus Callosum. *Brain and Cognition*, 76, 225-232.
- Delphi, M., & Abdollahi, F. Z. (2018). Dichotic training in children with auditory processing disorder. *International Journal of Pediatric Otorhinolaryngology*, 110, 114-117.

## Special Congratulations!

Congratulations to Barrett St. George (pictured below), member of the Neuroaudiology lab at the University of Arizona, who successfully defended his Ph.D. dissertation on July 26, 2021, which also happened to be his birthday! The title of Barrett's work was, "Perceptual and electrophysiologic metrics of fixed and moving auditory targets in the azimuth plane." His committee members consisted of Barbara Cone, PhD, CCC-A (Chair), Frank Musiek, PhD, CCC-A, Brad Story, PhD, Huanping Dai, PhD, and Andrew Fuglevand, PhD.



(On a personal note) Congratulations to Erik Musiek, MD, PhD (pictured below), who was named The Charlotte and Paul Hagemann Professor of Neurology at Washington University School of Medicine. This named chair was awarded for Erik's research in Alzheimer's disease. More about Erik and his research can be found on the Department of Neurology's page:

<https://neuro.wustl.edu/About-Us/facultybiographies/muziek>



# Hearing Health and Technology Matters

Hearing Health and Technology Matters (HHTM) is a blog that provides information and insights into those with hearing loss. One of the divisions of HHTM is Pathways (Editor: Frank Musiek) which delivers monthly educational articles. These articles are authored by researchers, clinicians, and graduate students, and are well worth the read. Below are some of the most recent titles to check out:

**July 2021:** The Unsatisfying IEP (Individualized Educational Placement) and CAPD: An Instructive Commentary

**August 2021:** Home is Where the...ABR Testing Happens!

**September:** Hidden Hearing Loss and Diabetes

These and other articles can be found on the HHTM website under the Pathways section: <https://hearinghealthmatters.org/pathways/>



**PATHWAYS**  
Dr. Frank Musiek, Editor

## Interesting Reads on Neuroaudiology and CAPD

- Seeto, M., Tomlin, D., & Dillon, H. (2021). The relations between auditory processing scores and cognitive, listening and reading abilities. *Ear and Hearing*, 42(4), 803-813.
- Bezerra, D. S., Angrisani, R. G., Pereira, L. D., Azevedo, M. F. D., & Dias, K. Z. (2021). Auditory efferent inhibitory effect in central auditory processing disorder. *Audiology-Communication Research*, 26, 1-8.

**AUDIOLOGY**

**TRIVIA**

**ANSWERS**

1) The SP/AP ratio consistent with Meniere's disease is (d)

>0.4

2) The length of the adult human auditory nerve is (b) 22-25mm

3) A typical wave V amplitude is (b) 0.6-0.8 microvolts

**PAST NEWSLETTERS:** All past newsletters can be found at: [musiek.faculty.arizona.edu](https://musiek.faculty.arizona.edu)