

# Integration of Psychology & Neuropsychology into Pediatric ENT & Audiological Medical Team Settings

Sarah Schoffstall, PhD, Matthew Fasano-McCarron, PsyD, Michael Hoffman, PhD, & Rachel Landsman, PsyD



## Background, Training & Qualifications

- Pediatric psychologists and neuropsychologists provide interventions and assessments that promote adjustment to medical conditions as well as support patients and families to navigate the complexity of these conditions.
- Authors all sought advanced clinical training, at the psychology internship and post-doctoral fellowship level, in order specialize in providing services to deaf and hard of hearing (DHH) pediatric populations, with respect to both the cultural and medical needs of the DHH children.
- One author has direct lived experiences as a DHH individual, and others have pursued formal training in American Sign Language (ASL) to achieve direct communication with signing DHH patients

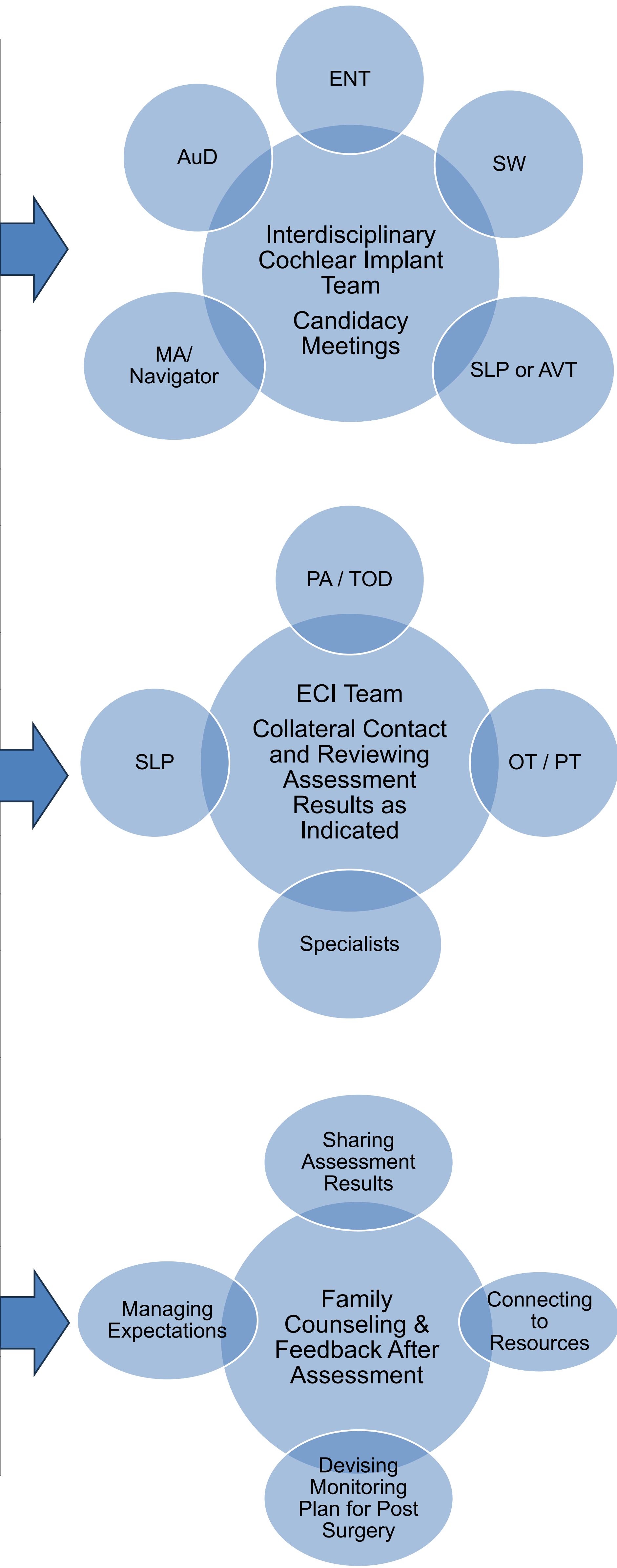


## Whole Child Approach: Ethics & Values

- Many DHH individuals in the United States maintain an identity as part of a cultural-linguistic minority group who collectively embrace the use of ASL, maintain Deaf Gain perspectives, value social and educational opportunities that foster belonging and a sense of community as well report historical experiences with medical communities attempting to “fix,” “cure,” or otherwise “help,” them to function in a majority hearing society.
- DHH pediatric populations are a widely heterogenous and diverse group with respect to medical, genetic, and developmental histories and with respect to family language backgrounds, multicultural, d/Deaf, and disability identity development trajectories. There cannot be a one-size-fits all approach to medical care.
- DHH pediatric populations face increased rates of linguistic, developmental, and behavioral health complications secondary to inaccessible communication environments, when compared to same age hearing peers. Increased attention must be paid to language deprivation as a behavioral health crisis. Psychologists and neuropsychologists on ENT teams are well-positioned to help address these factors.
- Providers who belong to majority hearing, able-body, racial, or gender communities have increased responsibility to provide compassionate, inclusive, and equitable care. Cultural humility is paramount when working with DHH pediatric populations and their families.
- **Fundamentally, a whole-child approach recognizes:**
  - 1.) Complexities in the historical experiences of DHH communities, and the nuanced differences between sociological and medialized views of Deafness and Disability
  - 2.) The intersectionality of deaf identities with other identities patients and their families may hold as well as the vast and unique differences between and among DHH patients and families
  - 3.) High priority on robust language and communication access and development, above and beyond discrete audiological or speech outcomes
  - 4.) That deafness itself, as a condition which may co-occur with other conditions, is not to be blamed for a child's reduced or impoverished language outcomes

## Methods of Medical Team Integration & Collaboration with Community Providers

Cochlear Implant Candidacy Pre-Surgical Domains of Assessment		
Domain	Subdomains	Assessment Questions
Audiological, Medical, and Developmental History	Etiology of Deafness	- Is there a known cause for the child's hearing loss? - Is the etiology associated with other known developmental outcomes?
	Age of Identification	- When was hearing loss first identified?
	Early Medical History	- What is the pre-, peri-, and post-natal history of the child? - Was there a NICU stay or other complications requiring medical intervention?
	Device Usage	- What is the history of use of assistive listening devices, once these were available to the family? - What barriers to wear time have been reported?
Family History	History of Deafness	- Is there anyone else in the family with lived DHH experiences? - Does family know others who are DHH?
	Composition & Occupations	- Who lives at home with the child and spends most of the time with the child? - What are caregivers' occupations?
	Current Stressors	- Is the family managing other significant stressors? - Do caregivers have access to FMLA and/or ability to attend multiple appointments? - Are there guardianship or custody complications?
	Medical & Behavioral Health History	- What medical and behavioral health factors may predispose or indirectly impact the child?
Language Access History	Language Access Profile	- What language(s) has the child been exposed to? - What time has the child spent accessing each language?
	Resources to Support Language and Communication	- Is the family concerned that learning signed language will prohibit spoken language development? - Does family have adequate resources available to learn to sign?
Family Experience, Education & Expectations for CI Outcomes	DHH Identification	- What was it like for the family to learn their baby was deaf, and how did they respond?
	The CI Process	- Can the family explain the CI evaluation process accurately? - Does family understand differences between CI's vs. hearing aids?
	The Rehabilitative Process	- Does the family have realistic expectations following surgery, including required appointments and timeline for linguistic progress? - Does the family have appropriate expectations for whole child development beyond speech and language?
Family Connection to Community Services and Resources	Early Childhood Intervention	- Is there a provider on the ECI team who is knowledgeable about deafness, such as a Parent Advisor (PA), or a Teacher of the Deaf (TOD)? - What other ECI services does the child receive?
	Engagement with Deaf Mentor and other DHH Families	- Has the family connected with any community supports and/or other DHH individuals or families? - Has the family been provided resources to connect with statewide or local organizations?
Standardized Assessment of Child's Current Functioning	Performance-Based Assessment	- Measures/screening tools to directly assess emerging cognitive, expressive/receptive communication, and gross & fine motor skill
	Direct Observations	- Observed patterns or trends in child's behavior and functioning
	Caregiver Interview & Report Forms	- Questionnaires to assess real world functioning at home and in the community. - Interview about development/adaptive living skills, social/emotional/behavioral functioning.
	Collateral Contacts	- Questionnaires and Interviews with providers already known to the child



## Future Directions

- Although many pediatric hospitals and medical centers include ear, nose, throat (ENT), audiological (AuD), and cochlear implant (CI) specialty teams, pediatric psychologists and neuropsychologists are rarely embedded within these teams, due to a dearth of formalized training opportunities with deaf and hard of hearing (DHH) populations.
- Increasing numbers of psychologists and neuropsychologists who specialize in serving DHH patients is essential to providing more culturally-informed, individualized, and holistic care in pediatric hospital settings, including providers with lived experiences as DHH individuals.

## Works Cited

-American Psychological Association (2013). Guidelines for psychological practice in health care delivery systems. *The American Psychologist*, 68(1), 1–6.

-Bathgate, P., Bennett, E., Cropper, J., Edwards, L., Emond, A., Gamble, C., Kentish, R., & Samuel, V. (2013). Good practice guidelines for clinical psychologists working in paediatric cochlear implant teams. *Cochlear Implants International*, 14(Suppl. 4), S32–S34.

-Delcenserie, A., Genesee, F., & Champoux, F. (2024). Exposure to sign language prior and after cochlear implantation increases language and cognitive skills in deaf children. *Developmental Science*, e13481.

-Gallaudet Research Institute. (2011). Regional and national summary report of data from the 2009–2010 Annual Survey of Deaf and Hard of Hearing Children and Youth [Data file]. [https://research.gallaudet.edu/Demographics/2010\\_National\\_Summary.pdf](https://research.gallaudet.edu/Demographics/2010_National_Summary.pdf)

-Goodwin, C., Carrigan, E., Walker, K., & Coppola, M. (2022). Language not auditory experience is related to parent-reported executive functioning in preschool-aged deaf and hard-of-hearing children. *Child Development*, 93(1), 209–224.

-Guthmann, D. S., Mathos, K., & Richter, J. (2017). Interdisciplinary collaboration to ensure the wellbeing of deaf and hard of hearing students with complex needs. *JADARA*, 51(1), 34–52.

-Hall, M. L., Eigsti, I. M., Borfield, H., & Lillo-Martin, D. (2018). Executive function in deaf children: Auditory access and language access. *Journal of Speech, Language, and Hearing Research*, 61(8), 1970–1988.

-Hall, W. C., Smith, S. R., Sutter, E. J., DeWindt, L. A., & Dye, T. D. V. (2018). Considering parental hearing status as a social determinant of deaf population health: Insights from experiences of the “dinner table syndrome”. *PLoS One*, 13(9), e0202169.

-Hamilton, B. M., & Clark, M. D. (2020). The Deaf Mentor program: Benefits to families. *Psychology*, 11(5), 713–736.

-Hoffman, M. F., Landsman, R. A., Fasano-McCarron, M. E., Schoffstall, S. J., Witkin, G. A., & Parkes, W. J. (2023). Integrating psychology into pediatric audiology/otolaryngology clinics: Gaps and a model of care. *Clinical Practice in Pediatric Psychology*, 11(3), 338.

-Humphries, T., Kushalnagar, P., Mathur, G., Napoli, D. J., Rathmann, C., & Smith, S. (2019). Support for parents of deaf children: Common questions and informed, evidence-based answers. *International Journal of Pediatric Otorhinolaryngology*, 118, 134–142.

-Kushalnagar, P., Ryan, C., Paludnevicene, R., Speltun, A., & Gulati, S. (2020). Adverse childhood communication experiences associated with an increased risk of chronic diseases in adults who are deaf. *American Journal of Preventive Medicine*, 59(4), 548–554.

-Kutz, W., Wright, C., Krull, K. R., & Manolidis, S. (2003). Neuropsychological testing in the screening for cochlear implant candidacy. *The Laryngoscope*, 113(4), 763–766.

-Levine, D., Strother-Garcia, K., Golinkoff, R. M., & Hirsch-Pasek, K. (2016). Language development in the first year of life: What deaf children might be missing before cochlear implantation.

-Moeller, M. P., Carr, G., Seaver, L., Stredler-Brown, A., & Holzinger, D. (2013). Best practices in family-centered early intervention for children who are deaf or hard of hearing: An international consensus statement. *Journal of Deaf Studies and Deaf Education*, 18(4), 428–445.

-Sarant, J., & Garrard, P. (2014). Parenting stress in parents of children with cochlear implants: Relationships among parent stress, child language, and unilateral versus bilateral implants. *Journal of Deaf Studies and Deaf Education*, 19(1), 85–106.

-Secora, K., & Smith, D. (2021). The benefit of the “and” for considerations of language modality for deaf and hard-of-hearing children. *Perspectives of the ASHA Special Interest Groups*, 6(2), 397-401.

-Warner-Czyz, A., Roland, J., Jr., Thomas, D., Uhler, K., & Zombek, L. (2022). American cochlear implant alliance task force guidelines for determining cochlear implant candidacy in children. *Ear and Hearing*, 43(2), 268–282.