A Multidisciplinary Approach to Pediatric Audiology

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Michigan Audiology Coalition 2022

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Learning Objectives

- **Identify key members of a multidisciplinary team for pediatric hearing loss management**
- **Understand when multidisciplinary referrals are necessary for pediatric patients with hearing loss**
- **Describe the benefits and potential challenges of multidisciplinary care for pediatric hearing loss management**

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Terminology:

- **Multidisciplinary:** *combining or involving several academic disciplines or professional specializations in an approach to a topic or problem (independently)*

- **Interdisciplinary:** *combining or involving several academic disciplines or professional specializations in an approach to a topic or problem (collaborating)*

- **Collaboration:** *the action of working with someone to produce or create something*

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Multidisciplinary Approach in Audiology…

- Craniofacial
- Cochlear Implants
- Tinnitus Management
- Vestibular
- Pediatrics

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Where else is this approach effective?

- Cancer treatment (Fennell et al., 2010)
- Heart Disease (Kasper et al., 2002)
- Obesity (Carriere et al., 2016)
- Diabetes (Simmons et al., 2016)

Who can be on a multidisciplinary team?

Audiology	Otolaryngology	Speech Language Pathology	Psychology	Education
Social Work	Genetics	Pediatrics	Art/Music Therapy	Physical Therapy
Occupational Therapy	Auditory Verbal Therapy	Case Managers	Caregivers	Behavioral Therapy

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Who can be on a multidisciplinary team?

- Audiology
- Otolaryngology
- Psychology
- Social Work
- Education
- Genetics
- Caregivers
- Speech Therapy/ Auditory Verbal Therapy

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Audiology

- **Diagnosis of hearing loss**
- **Hearing needs assessment/ device evaluation**
- **Treatment of hearing loss**
  - Traditional Amplification
  - Cochlear Implants
  - Bone Conduction Hearing Aids (surgical/nonsurgical)
- **Device management/ programming**
- **Hearing assistive technology**
  - FM/ DM
  - Remote Microphones
  - Accessories

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Otolaryngology

- **Medical work-up for hearing loss**
- **Imaging order/review**
  - MRI vs CT Scan
- **Surgical placement of auditory implants**
- **Medical/surgical intervention for mixed/conductive hearing loss**

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Psychology

- **Assess, diagnose, and treat mental, emotional, and behavioral disorders**
- **Management of personal problems ranging from short-term personal issues to severe, chronic conditions**
  - Trained to use a variety of approaches to help individuals
- **Cognitive testing**
- **Behavioral Assessment/ Intervention**
- **Counseling**

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Social Work

- **Assist in coping with challenging situations in their lives**
  - Adoption
  - Chronic medical conditions
  - Substance abuse
  - Physical abuse
- **Can provide some therapy depending on state and licensure**
- **Community outreach and resources**

Education

- **General Educators**
- **Deaf Educators**
- **Auditory/ Oral Education**
- **Educational Consultants**
- **Special Educators (ESE)**
- **Tutors**

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Speech Language Pathology/ Auditory Verbal Therapy

- **Speech and language evaluations**
- **Alternative and Augmentative Communication Device evaluation**
- **Assessment and treatment of speech, language, voice, and fluency disorders**

- **Auditory Verbal Therapy**
  - Facilitating optimal acquisition of spoken language through listening by newborns, infants, toddlers, and young children who are deaf or hard of hearing (ASHA)

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Genetics

- **Results of genetic testing can inform outcome counseling**
- **Syndromic vs non- syndromic hearing loss**

- **Examples:**
  - **Connexin 26**
  - **Otoferlin**
    - Auditory Neuropathy Spectrum Disorder (ANSD)

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Caregivers

- **Extremely important member of any multidisciplinary team**
- **Many parental or caregiver factors influence outcomes**
  - Socioeconomic status
  - Parental education
  - Overall adherence to recommendations
  - Multiple caregivers

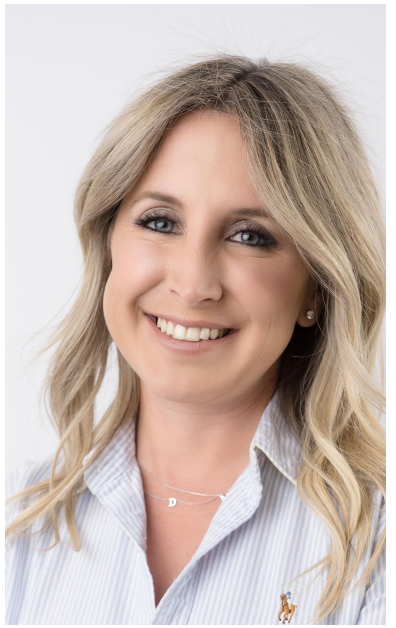


Tiny HUMAN Tamer

Pediatric Audiologists





Family Support Team

CHP Psychology

- **Family and individual counseling**
- **Behavioral intervention**
- **Psychoeducational evaluations**
- **Autism Spectrum Disorder evaluations**

- **Final Device counseling/selection for CI process**
- **Consultations from failed mental health screeners**

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CHP Social Work

- **Financial and insurance assistance**
- **Support with navigating community resources**
- **Addressing treatment barriers**
- **Family and individual counseling**

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CHP Education

- **Individualized Education Plan (IEP)/ 504 Plan support**
- **Educational consultations**
- **School/ Teacher trainings**

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CHP Auditory Verbal Therapy

- **Auditory verbal therapy sessions**
- **Speech and language evaluations**
- **Alternative and Augmentative Communication Device evaluations**
- **Co- treatment with Audiology**

- **Available in *English* | *Spanish* | *French***

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Innovative Delivery Models

- **Telehealth services available for all family support services**
- **Telehealth appointments available for counseling-based audiology services**
  - Device Evaluations
  - Device Selections
  - Troubleshooting
- **Remote Cochlear Implant Programming**
  - Being investigated presently by Chrisanda Sanchez, AuD and Meredith Holcomb, AuD

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Innovative Delivery Models

- Remote cochlear implant programming
- Investigating use of multidisciplinary team meetings (including caregivers) in the candidacy evaluation process

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Community Collaborations

- **U-Miami Debbie School**
  - Auditory/ Oral Program
- **Miami Children's Hospital Craniofacial Clinic**
  - Audiology Support
  - Educational Support
  - Amplification/ Treatment referrals
- **FL Medicaid and Hear USA**
  - UM to provide service to pediatric patients regardless of this
  - We are Hear USA providers in order serve the Medicaid pediatric population

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Case Presentations

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Case 1: Maxim

- **12-month-old male born and still living in Russia**
  - Seeking care in US for second opinion
- **Reported concerns:**
  - Failed newborn hearing test in Russia
  - Parents reported bilateral profound hearing loss based on ABR
  - Abnormal Behaviors
  - Global Delay
  - Speech Delay
  - Vision concerns
- **No formal diagnosis at initial intake other than hearing loss**

Case 1: Maxim

- **Audiogram:** inconclusive due to patient inability to condition
- **Sleep ABR:** Confirmed bilateral profound hearing loss

- **Referrals made:**
  - Hearing Implant Program
  - Neurotology
  - Genetics
  - Psychology
  - Neurology/Developmental pediatrics

Case 1: Maxim

- **Neurotology:**
  - Recommended sequential coch[illegible]n (due to insurance) pending results of MRI
  - Ordered genetic testing
  - Medically cleared for CI

- **But…..**

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Case 1: Maxim

- **Social Work to the Rescue:**
  - Assisted the family in changing insurance plans before further audiology appointments took place
  - Collaborated with cochlear implant administrative staff to ensure the new plan was compatible
  - Consulted with family in person to change insurance plan effective at months end

Case 1: Maxim

- **Psychology/ Neurology**
  - Identified behavioral patterns consistent with Autism Spectrum Disorder
  - Neurology provides formal diagnosis and orders for ABA therapy

  - Psychology team addresses additional concerns for length of follow-up as the family is in town temporarily from Russia

Case 1: Maxim

- **Hearing Implant Team**
  - Performs CI Evaluation
  - Moves for sequential Implant
- **Patient receives unilat sequently activated**

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Case 1: Maxim

- **Hearing Implant Team**
  - Routine follow-up for cochlear implant
  - Mom reports that genetic testing reveals Usher Syndrome Type I

- **Second side CI recommended and quickly pursued**

Case 1: Maxim

- **Bilaterally activated and utilizing support from audiology and psychology**
- **Enrolled in ABA therapy**
- **Returned to Russia for follow-up once CI programming was stable**

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Case 1: Maxim Key Takeaways

- **Several referrals were made but the process never paused**
- **Adjusted plan and necessary steps based on results**
  - **Insurance Issues:** Social work
  - **Genetics Results:** Expedited second CI
  - **Autism Diagnosis:** Outside referral to ABA therapy

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Case 2: Alexandra

- **12-year-old female with congenital mild sensorineural hearing loss**
  - Fit with amplification at 9 months of age
  - Consistent struggles with use of the devices for several years
  - Self-conscious about wearing the devices during school
  - Self- conscious about small stature and takes growth hormones

- **Referred to psychology due to parental concern for use of the devices**

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Case 2: Alexandra

- **Psychology**
  - Addressed concerns for device use
  - Uncovered deeper issued with generalized anxiety and depression
  - Established weekly therapy sessions for counseling and monitoring of symptoms

- **Similar issues to these could be identified through a mental health screener**
  - Created by psychology team and administered by audiologists to patients 12 years and older

Case 3: Robert

- **49-year-old male with developmental disability**
  - Longstanding severe to profound bilateral sensorineural hearing loss
  - Unilateral hearing aid in the right ear
  - Cochlear nerve deficiency in the left ear per parental report
- **Audiogram at initial presentation confirmed bilateral severe to profound sensorineural hearing loss**
- **Referred to adult cochlear implant team for candidacy evaluation**

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Case 3: Robert

- **Cochlear implant candidacy evaluation:**
  - Inconsistent and limited test results
  - Concerns for patient understanding of cochlear implantation
  - Concerns for parental/caregiver expectation with cochlear implantation

- **Overall inconclusive results which were brought to out hearing implant team meeting**

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Case 3: Robert

- **Team meeting:**
  - **Psychology-** Concerned for parent/ caregiver support and intentions
  - **Neurotology-** Patient is medically cleared for CI with no other treatment option due to abnormal anatomy in the contralateral ear
  - **Audiology-** Patient meets audiologic candidacy based on unaided and limited aided results and is at the limits for his traditional hearing aid
- **Decision:**
  - Move forward with CI process but include re-evaluation with pediatric CI audiologist

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Case 3: Robert

Outcomes:

- Patient was re-evaluated and responded wonderfully to pediatric tactics
- Full evaluation obtained which deemed him a cochlear implant candidate in the right ear

- **Patient underwent cochlear implant surgery and was activated shortly after**
  - Understanding open set speech with near normal detection of sound with CI processor on
  - Patient's mother commented that the re-evaluation and team meeting confirmed her trust with our institution

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Case 4: Niara

- **4-year-old female referred from an internal neurotologist**
  - Outside ABR showed profound hearing loss in the right ear and mild to moderate hearing loss in the left ear
  - Outside waveforms had poor morphology and high noise
  - Reported fear of medical providers
  - Does not speak in medical offices but family reported that she does speak at home

- **Audiogram:** Could not obtain reliable results as the patient was non-compliant

- **Recommended:**
  - Repeat ABR and ear exam under anesthesia to confirm results
  - Psychology consultation due to fear of medical providers

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Case 4: Niara

- **Repeat ABR** showed profound hearing loss in the right ear and mild to moderately severe hearing loss in the left ear

- **Recommended:**
  - CI Evaluation (right)
  - Hearing aid evaluation (left)
  - Continued psychology intervention
  - Medical evaluation and Imaging studies with ENT

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Case 4: Niara

- **Psychology Consultation**
  - Confirmed fear of medical providers
  - Confirmed heightened anxiety
  - Confirmed need for child life like strategies for CI process

- **Implemented a plan for psychology to be present for pre-op**

- **Created sensory bottles together via telehealth to help reduce anxiety in stressful situations**

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Case 4: Niara

- **Hearing aid evaluation completed**
  - Fit with loaner hearing aid and tolerated well

- **CI evaluation completed**
  - Deemed a candidate in the right ear
  - Imaging studies showed no abnormalities

- ***Currently awaiting activation with me next week!!***
- **Actively uses her sensory bottles for appointments**

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Case 5: Carly

- **2-year-old female presented to clinic with concerns for hearing loss**
  - Referred internally
  - Failed NBH 3x
  - 2 sets of PE tubes
  - Reported bilateral profound ABR from outside
  - Normal behavioral audiogram from outside
  - Speech delay and utilizing sign language

- **Audiogram:** No response at limits of the equipment, bilaterally.
  - Patient easily conditioned to task with vibrotactile stimulation

- **Recommended:** repeat ABR or produce outside waveforms for confirmation of hearing loss

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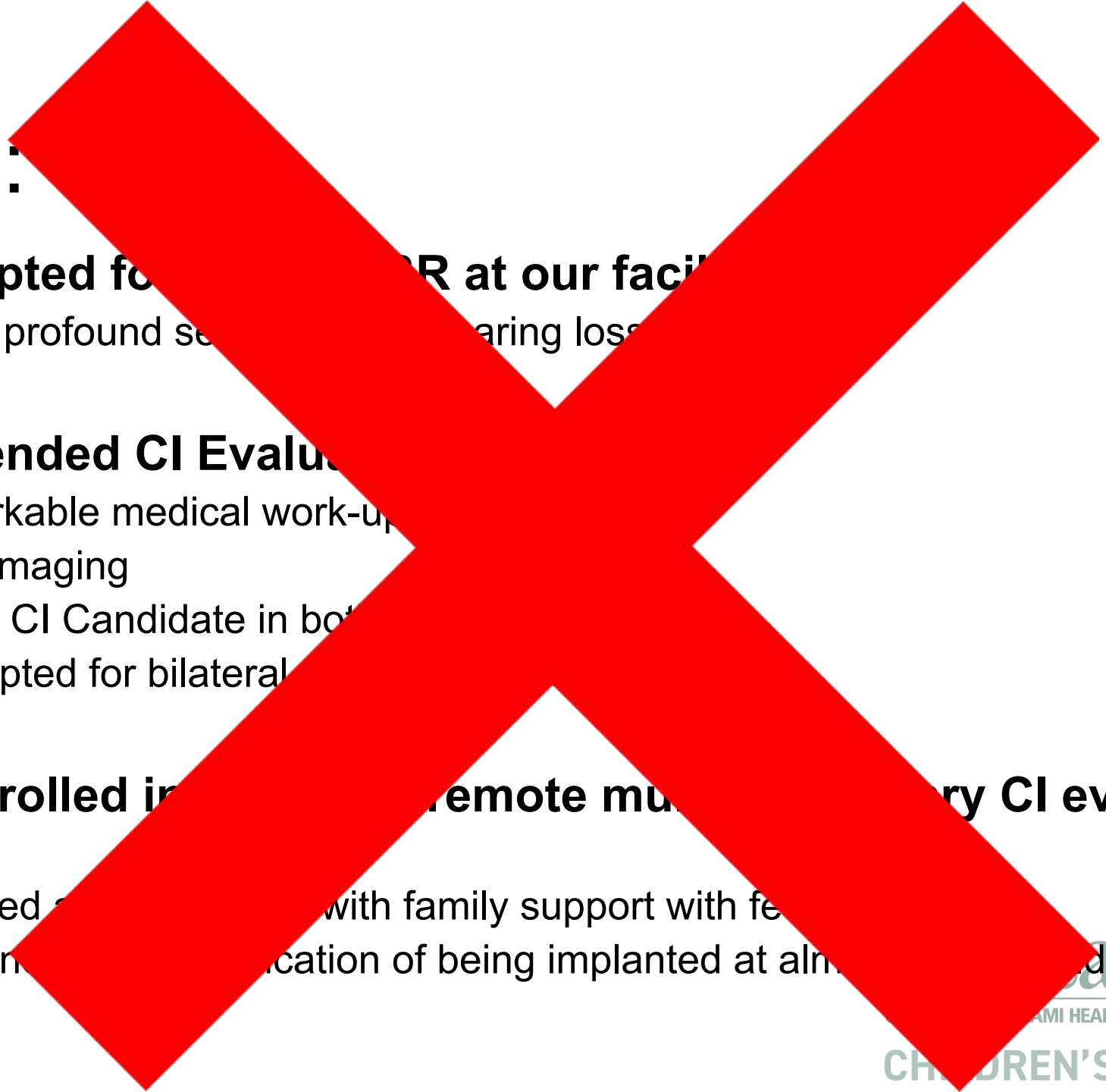
Case 5:

- **Parents opted fo R at our faci**
  - Bilateral profound se aring loss
- **Recommended CI Evalu**
  - Unremarkable medical work-u
  - Normal imaging
  - Deemed CI Candidate in bo
  - Family opted for bilateral
- **Family enrolled in emote mu ry CI evaluation study**
  - Completed with family support with fe
  - Family un cation of being implanted at alm d



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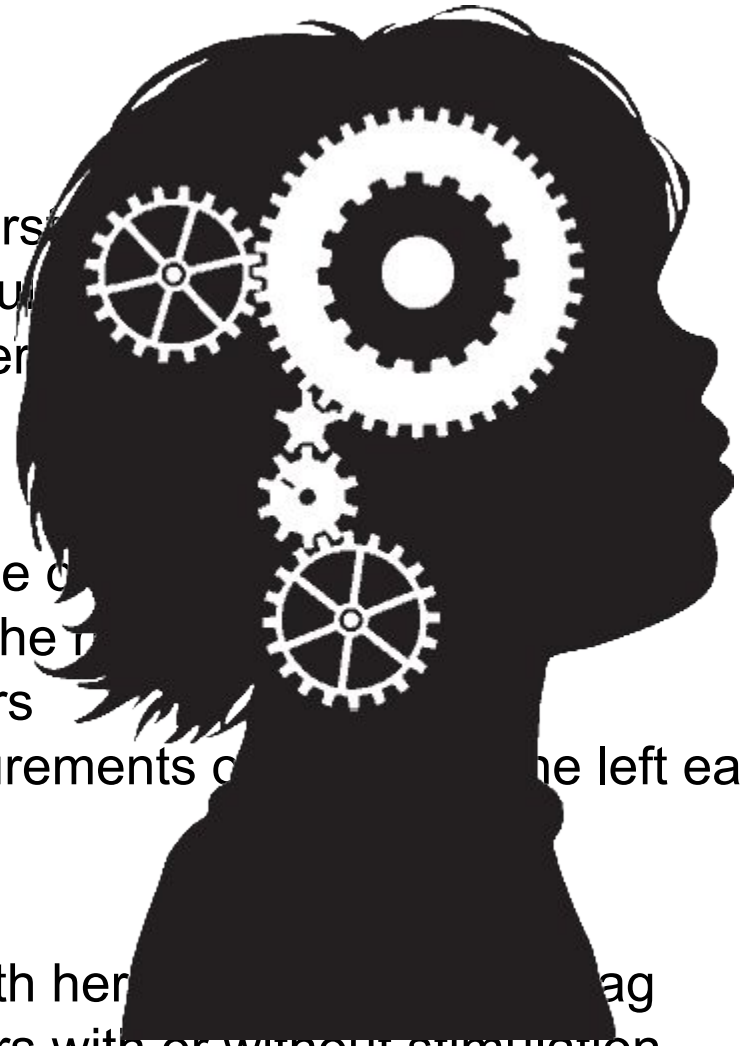
Case 5: Carly



- **CI Activation Day:**
  - Activated the right ear firs
  - Good tolerance for stimu
  - Objective measures toler
- **Left activation:**
  - Immediately resisted use c
  - Began resisting use of the r
  - Refused both processors
  - Only Impedance measurements c e left ear
- **After 3 hours:**
  - Carly left the clinic….with her ag
  - Now resisting processors with or without stimulation

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Case 5: Carly

- **Psychology Consultation (in person)**
  - It was determined that Carly was more accepting of the off-ear processor versus on ear
  - Kanso 2 processors were tolerated by Carly for just 15 minutes……..after 90+ minutes attempting
- **Behavioral strategies provided for increased acceptance and use**
- **Retention clips were recommended for better retention**

Case 5: Carly

- **Carly proceeded with CI programming appointments and AVT sessions**
- **Slowly tolerating the use of the processors for short amounts of time with low levels of stimulation**
- **Slow to no progress in AVT due to low stimulation**

- **Slowly worked up use of the processors to approximately 2-3 hours per day at home**
  - Not utilizing at school even with private aid assisting
  - Mom is concerned with school placement

Case 5: Carly

- **Educational Consultation**
  - Assessment to determine if Carly is in the appropriate setting
  - Telehealth and in service for teachers and private aid
  - Education on IEP for future

Case 5: Carly

Team meeting

- **Audiology:** concerned with low wear time
- **AVT:** concerned with lack of sound detection
- **Psychology:** concerned with resistive behaviors to devices and parental stress
- **Education:** concerned with current educational placement based on parental report
- **Mom:** concerned that Carly recently started to resist use of the processors again (similar to activation)

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Case 5: Carly

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Case 6: Mateo

- **2-year-old male with history of bilateral profound hearing loss and global developmental delay**
  - Some behavioral concern but assumed to be related to deafness
- **Completed CI Process and unilaterally implanted**

- **CI Activation:**
  - Patient was somewhat resistant to use of the processor
  - Tolerated objective measurements and impedance measurements
  - Left wearing the sound processor but removing it often
  - Family was counseled on the importance of consistency and follow-through

Case 6: Mateo

3 weeks CI Activation:

- Mom stated that Mateo refused use of the sound processor since activation and stated that he has not been wearing it
- Mateo did not tolerate use of the processor at all during this appointment
- No measurements or programming could be completed

- **Referral to psychology to address behavioral concerns/ barriers**
- **Recommended retention clips and potentially a pilot cap**

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Case 6: Mateo

Psychology consultation:

- Provided behavioral strategies for increased retention and practiced with the family via telehealth
- Learned more about Mateo's concerning behaviors and difficulties

2-week follow-up in person:

- With behavioral techniques and coaching Mateo was able to utilize the processors with retention clips
- Family was advised to continue this

Case 6: Mateo

CI follow-up:

- **3 weeks later, Mateo was able to tolerate the sound processor and datalogging was increased from 0 to 9 hrs/day**

- **Mom was still concerned with Mateo's behaviors in general and was already scheduled to follow-up with psychology for an assessment**

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Case 6: Mateo

Psychoeducational Evaluation:

- Diagnosed with Autism Spectrum Disorder
- Recommended second side CI for optimal communication outcomes

Currently:

- Awaiting second side CI Surgery
- In ESE setting at school
- Awaiting further therapies for recent diagnosis of Autism

Key Takeaways

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Discussion Questions

- How is your multidisciplinary team different from the model discussed today?
- Are there additional professionals that you have or would like to have on your team? Why? What services could they provide?
- If you do hold regular team meetings on specific patients? Have you ever had parents/ caregivers present?
- What members of a multidisciplinary team do you think might be important for adults? How might the service lines differ from pediatrics?
- Should a multidisciplinary approach to management of hearing loss be the standard of care?
- Would guidelines establishing potential roles and members of a multidisciplinary team be useful in audiology?

References

- Fennell, M. L., Prabhu Das, I., Clauser, S., Petrelli, N., & Salner, A. (2010). The organization of multidisciplinary care teams: modeling internal and external influences on cancer care quality. *Journal of the National Cancer Institute Monographs*, *2010*(40), 72-80.
- Kasper, E. K., Gerstenblith, G., Hefter, G., Van Anden, E., Brinker, J. A., Thiemann, D. R., ... & Gottlieb, S. H. (2002). A randomized trial of the efficacy of multidisciplinary care in heart failure outpatients at high risk of hospital readmission. *Journal of the American College of Cardiology*, *39*(3), 471-480.
- Carriere, C., Cabaussel, C., Bader, C., Barberger‐Gateau, P., Barat, P., & Thibault, H. (2016). Multidisciplinary care management has a positive effect on paediatric obesity and social and individual factors are associated with better outcomes. *Acta Paediatrica*, *105*(11), e536-e542.
- Simmons, D., Wenzel, H., & Zgibor, J. C. (Eds.). (2016). *Integrated diabetes care: a multidisciplinary approach*. Springer.
- U.S. Bureau of Labor Statistics. (2022, September 8). *Psychologists : Occupational outlook handbook*. U.S. Bureau of Labor Statistics. Retrieved October 14, 2022, from https://www.bls.gov/ooh/life-physical-and-social-science/psychologists.htm#:~:text=Clinical%20psychologists%20assess%2C%20diagnose%2C%20and,of%20approaches%20to%20help%20individuals.
- U.S. Bureau of Labor Statistics. (2022, September 8). *Social Workers : Occupational outlook handbook*. U.S. Bureau of Labor Statistics. Retrieved October 14, 2022, from https://www.bls.gov/ooh/community-and-social-service/social-workers.htm#:~:text=Social%20workers%20help%20people%20cope,preventing%20and%20treating%20substance%20abuse.
- *Auditory-verbal therapy: Supporting listening and spoken language in young children with Hearing Loss & Their Families*. @ASHA. (2012, March 29). Retrieved October 14, 2022, from https://leader.pubs.asha.org/do/10.1044/auditory-verbal-therapy-supporting-listening-and-spoken-language-in-young-children-with-hearing-loss-their-families/full/

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THANK

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