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School And Community Audiology Partnerships

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Learner Outcomes

As a result of this course, participants will be able to:

- Provide an overview of laws that support educational access for children with hearing loss and the responsibility of educational and community audiologists in implementing these laws.
- Discuss benefits of creating a partnership between a educational/school audiologist and community audiologist on behalf of the child.
- Describe recommendations that support educational and communication goals for school-aged children.

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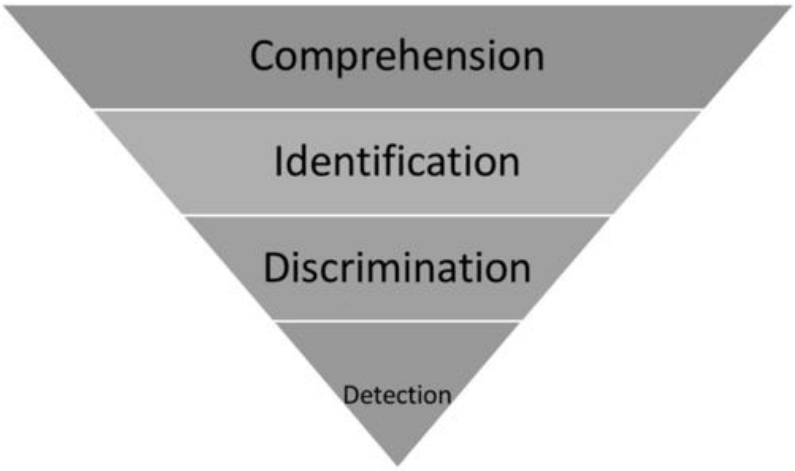
Erber's Hierarchy (1992)



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"Flavors" of audiology

- Clinical audiologists: Those audiologists who provide diagnostic services (hearing evaluation, etc.) and rehabilitative services (hearing aid selection, fitting, and follow-up; auditory training, etc.). These services are generally provided in center based facility

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"Flavors" of audiology

- Educational/school-based audiology: Address child's classroom needs with technology (FM/DM system), provide educational assessment (such as the Functional Listening Evaluation), provide in-service training to school personnel, advise school district on equipment, room acoustics, etc.

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"Flavors" of audiology

- Considerable overlap and hopefully cooperation
- In the U.S., some states have educational audiologists for every school district
  - Ohio has about 32 school based/educational audiologists (8th most populous state in the U.S.)
    - Most cover a specific school district (Columbus Public Schools for example)

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"Flavors" of audiology

- Some districts contract with audiology programs in clinics, hospitals, etc.
  - Provide services as requested by the school district (independent evaluations, equipment maintenance, etc.)
  - In some cases, may be both the clinical and educational audiologist
- Some districts have no audiology support; do it "on their own": The good, the bad, and the ugly ☺

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United in that the child/student is the focus

- Unique perspectives
  - Those of us in school settings see the child in their "natural habitat"
    - How can information about an "authentic assessment" be provided
  - Those in clinical settings often hear from child/parent based on relationship/trust; specific information regarding hearing/listening that augments observations in the classroom
    - Verification and validation

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Why is school "different"

- The "fallacy" of hearing loss
  - Back to detection again
  - Just because a student "seems" like they are hearing, doesn't mean they are
  - Don't ask a person with a hearing loss what they missed because they missed it
  - Are the terms "mild" "moderate", etc. useful? Even hearing loss classified as "mild" can have a significant educational impact
    - Hearing loss is hearing loss

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Why are kids in school different?

- Listening all day is fatiguing and can be stressful
- How do these things relate to educational handicap?
  - Must assess this for the individual student and not only based on degree of hearing loss
  - Listening fatigue is not clearly related to degree of hearing loss
  - Not all children need the same solutions—must assessed/evaluated in the school environment (range from technology to teaching options)

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The Pediatric Audiologist: From Magician to Clinician

- The famous article by Liden and Harford, written in 1985
- An updated article might suggest *from scientist to magician to clinician*
  - *If it weren't difficult enough to "just" be the magician to clinician*
- As psychoacoustics is the basis for the profession of audiology, developmental psychoacoustics is the foundation for pediatric audiology
- Other "sciences": genetics, microbiology, neurology, embryology

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When the "magician" article was written…

- Main concerns were a focus on identifying children "early" (2-3 years of age)
- School programs where children with hearing loss are grouped together
- Main hearing loss being identified was severe to profound
- Hearing aids were analog
- FM systems were body worn had a crystal… if dropped, it could be months to get them up and working

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CONTINUED

Today…

- Identify children early
  - The "cheetah warrior princess"
  - What does this mean for services
- Children with broader range of communication issues
  - What defines hearing
- Different population of children (e.g. children on the autism spectrum)

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Today…

- Where do issues like hyperacusis and misophonia fit into the scope of audiology: Significant need but who "owns" this?
  - Impact in educational setting
- "Mainstreaming" pros and cons
  - The issue of the "one and only"
- Technology
  - Bluetooth, streaming, etc.

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Constantly learning more about pediatric audiology

- A "growth" industry
- Populations that are in schools
  - Epidemic of concussion/TBI
  - Children on the autism spectrum
  - Noise exposure that is recreational; musicians who are like "professionals" in terms of noise exposure in school
    - Monitoring/hearing protection, etc.

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What do parents know and what can they share?

- Not understanding the "type" of hearing loss
- Parents of teenagers with hearing loss were still wondering about the etiology of their child's hearing loss
  - What we as audiologists think we do well—informational counseling

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Basics at the beginning

- Who is the appropriate contact:
  - Most often, someone in special education at the school district
  - Sharing information with the decision maker (this is NOT the classroom teacher, school nurse, etc.)

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Basics at the beginning

- What do they need: Sharing information between audiologist and school
  - Copy of current audiometric information
  - Information about current technology:
    - Hearing aid make, model, serial number
    - Cochlear implant processor information
    - RELEASE OF INFORMATION—TALK WITH EACH OTHER

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Directing families appropriately to the "decision makers"

- Quick read for review: Colker, C. (2018). Special Education Law in a Nutshell. St. Paul., MN: West Academic Publishing.
- A Guide to Parents Rights in Special Education: Special Education Procedural Safeguards Notice; Ohio Department of Education (published in 11 languages in addition to English)
- Begins with state "Child Find" and early identification services
- Part C of Individuals with Disabilities in Education Act (Individualized Family Service Plans) (age 3-5 years)

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Directing families appropriately to the "decision makers"

- Individuals with Disabilities in Education Act Part B
  - 13 different categories
  - Common in audiology
    - Hearing impairment/Deafness
    - Deaf-Blind
    - Multiple disabilities
    - Speech/language impaired
    - Other health impaired

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Directing families appropriately to the "decision makers"

- Individuals with Disabilities in Education Act Part B
  - The law is clear that being in one of these categories is not enough to qualify as having a "disability"
  - The child must NEED special education or related services
    - What does "need" mean?
    - Does hearing loss adversely impact the ability to participate in the academic program?

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Directing families appropriately to the "decision makers"

- How do we address this question?
  - Speech in noise testing
  - Verification and Validation
  - Authentic Assessment
  - Breadth of recommendations (don't write outdated information about Digitally modulated system use; avoid outdated things like recommending tennis balls on chair and table legs; explain issues like the fact that preferential seating has minimal acoustic benefit)

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Directing families appropriately to the "decision makers"

- How do we address this question?
  - Explain that hearing loss is educationally handicapping
    - Not correlated to degree of hearing loss
    - Focus on the reality of hearing loss: Fatiguing, can produce anxiety, address the fact that it can be socially/emotionally isolating, raise the fact that students with hearing loss are at least 3X more likely to be bullied than students who don't have hearing loss

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Directing families appropriately to the "decision makers"

- Section 504
  - Section 504 of the Rehabilitation Act of 1973
    - No individual shall be excluded from participation in a program or activity based on their disability if the activity receives Federal financial assistance
    - Not on an IEP; legally this says that the child does not need special education or related services even though they have a disability

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Directing families appropriately to the "decision makers"

- Influencing the decision makers
- Provide specific information about the impact of hearing loss, about the child's specific technology, etc.
- Help family understand issues
- Recommendations of a parent advocate

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Well fit cochlear implants/hearing aids are GREAT!

- These are a key to accessing education for a child with hearing loss, regardless of the communication strategy/approach/classroom
- However, hearing aids/CI are only part of the educational plan

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Well fit cochlear implants/hearing aids are GREAT!

- They must be "well fit"…fit is verified and validated
  - Validation may be done with school input, such as use of Listening Inventory for Education (LIFE) questionnaire
- The hearing aid/CI must be worn—this means all waking hours, not just at school
- The hearing aid/CI must be maintained and be working
  - What is needed at school to support hearing aids/CI: Batteries, battery pack, etc.

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Well fit cochlear implants/hearing aids are GREAT!

- Provide real ear results that may help determine a number of things:
  - Audibility
  - The need and setting for specific features (frequency lowering, directional mics)
  - Hearing aids in conjunction with assistive technology (clip mics, DM, etc.)

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Well fit cochlear implants/hearing aids are GREAT!

- If the hearing aid/CI is going to be connected to technology, it must be "technology ready". The hearing aid/implant programming should also be provided to the district/educational audiologist.
  - Correct battery door
  - Program that will accept/maximize FM/DM
  - The district is responsible for the "connector" (audioshoes, Euroadapter, etc.)

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Unique aspects of school for kids with hearing loss

- Even the best fit hearing aids or the most incredible fitting of a CI cannot address all aspects of the classroom for a child with hearing loss.
- Audiologists: It does not help the case for CI kids to describe their hearing as "normal" with the CI
  - Implanted detection results ONLY reflect detection and no child with a CI has "normal hearing"
  - How this is interpreted in many school districts

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Why is school "different"

- Acoustics
  - The fallacy of preferential seating: STOP recommending as an acoustic solution
  - Soundfield systems (CADS: Classroom Acoustic Distribution System)
  - Hearing aids/CI may not provide enough
  - The issue of signal-to-noise ratio
- Expectations of learning
  - The "auditory-oral" nature of the classroom

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FM/DM considerations

- In order for hearing loss to be considered, it must be educationally handicapping: e.g. the disability impacts academic access
- Not all children with hearing loss NEED FM/DM and it is only ONE consideration in school placement, not the ONLY recommendation

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FM/DM considerations

- In order for hearing loss to be considered, it must Clinical audiologists make the recommendation…best way to recommend is a trial use of FM so that the "right" solution can be selected/provided (also, provide speech-in-noise information), etc.
  - "Authentic assessment": District asks for a questionnaire, such as the Screening Instrument for Targeting Educational Risk (SIFTER), prior to trial
  - Functional Listening Evaluation

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FM/DM considerations

- Pre-post assessment using the Listening Inventory for Targeting Educational Risk-Revised (LIFE-R) : Anderson, Smaldino, & Spangler https://successforkidswithhearingloss.com/wp-content/uploads/2011/08/LIFE-R.pdf
- Helps to provide direction on need, choice of devices, etc.

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FM/DM considerations

- Schools can "borrow" equipment to determine the best solutions
  - Some schools may have a stock of FM/DM solutions
  - In Ohio, the district can borrow a system from Ohio Center for Autism and Low Incidence for up to 90 days

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FM/DM considerations

- If written into an IEP, this is a legally binding document
  - What if the child refuses to use the FM? Who "forces" them to wear it?
    - Involve the child in their own meetings early on (development of self-advocacy skills)
    - Partnership between everyone involved to address this
      - Can't just defer to school and say "make him (her) wear it"
      - Kids who sabotage their systems
        - What is the value?

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FM/DM considerations

- The question of using "home" equipment at school
  - If equipment is needed, it is the district's responsibility to provide
  - Using personal equipment has many issues. If a district were to agree to this, what are the liability issues? Get information in writing (this would be a VERY rare situation)
  - Using school equipment in other situations (e.g. sports, etc.)

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Building a team for the student

- Input from all
  - Parents are experts on their own children and that is recognized and appreciated
  - Clinical audiologist may have worked with the child for years and can provide a unique perspective
  - Educational audiologist—understands the classroom and the technology
    - School placement needs all of this input
    - Where things go wrong: DEMANDING, ACUSING, BLAMING, listening to BAD information (e.g. the problem of "WiFi" giving FM interference—WRONG!)

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Sharing information

- Assume the best
- The student is the focus
- Reasonable expectations: Parents not needed to be there to "monitor" school services…if a problem arises, it's reasonable to hear about it
  - Need a visit to the clinical audiologist (new earmold, tubing, reprogramming to facilitate FM, etc.)
  - Equipment will need to repaired—expectations regarding that (timeframe, etc.)
    - No child should be so dependent on FM that a few days will be an issue, but what's a backup plan?

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Keys for success

- Involve the child! Even at a young age
  - How to empower children with hearing loss
  - "One and only"
  - Kids that are most successful are self confident about loss
  - Reinforce this "everywhere": community audiologist and educational audiologist on the same page
    - If technology is key, student must wear it all the time—not just in school

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Keys for success

- Provide information (audiogram, etc.)
- Approach as a team approach
- Recognize that the school priority is to assure that the child is set for educational success (e.g. assume that the child has functioning hearing aids, batteries, etc.)
- Recognize that the district has responsibility to provide agreed upon services to the student and that this should be based on “evidence” yet open to be modified

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Putting the child in the center

- We are not the experts: Families are
- Not all families have same degree of internal motivation
  - Identify family priorities while trying not to judge
  - Partner with others (social work, psychology, early intervention)
  - Address needs: schedule, finance
  - How could a clinical/educational partnership support needs

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Putting the child in the center

- Our first job is to get information not give information
  - What does the family want for the child?
  - Stephen Covey's concept of beginning with the end in mind
- Asking positive questions/rephrasing
- Proactively define and manage expectations
  - Typical speech and language development requires consistent auditory input

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Putting the child in the center

- Role is to influence change not make change
  - Provide resources
  - Lead the way
  - May not know about brain development
    - Reading and speaking to the child: The Three Million Word initiative
      - "Within every parent and caregiver lies the power to shape his or her child's learning capacities from day on"
      - http://tmwcenter.uchicago.edu/
    - Music (Research by Nina Kraus)

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CONTINUED

Putting the child in the center

- Engaging in difficult conversations with parents, educators, and the child
- "Start with why" (Simon Sinek)
- Trust! (Families, each other)
  - Adapted from How to Be an Effective Influencer for Good Smith, Michael S. MA; Smith, Joanna T. MS; Elder, Tamara MS; Wolfe, Jace PhD
  - The Hearing Journal: June 2015 - Volume 68 - Issue 6 - p 32,34,36

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CONTINUED

Developing family centered goals

- Framing abstract concepts with a concrete tool
  - "My world" at Ida Institute
    - Incredible resource for anyone with hearing loss, family members of anyone with hearing loss, professionals who work with people who are hearing impaired
    - FREE for anyone who wants to join!
    - International perspective
  - http://idainstitute.com/tool_room/pediatric_audiology/

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CONTINUED

The changing face of auditory issues in the classroom

Three of many issues: Vestibular, tinnitus, noise exposure

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Issues related to pediatric vestibular issues

- At least 40% of children with hearing loss are thought to have concomitant vestibular issues
- Growing knowledge of the vestibular system in children
- Parents and teachers who comment on kids being "clumsy"
- Impacts reading, physical education, etc.
- Postural control and vision

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CONTINUED

Issues related to pediatric vestibular issues

- Current recommendations are that children with hearing loss should have ophthalmological assessment and vestibular screening
- Generalized population: 5-8% of children experience vertigo (Doetti and McCaslin, 2017)
- Major cause of balance issues in school aged kids is otitis media
- Screening with Vanderbilt Dizziness Handicap Inventory for Patient Caregivers OR Pediatric Vestibular Symptom Questionnaire

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Gracie's case

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Questions about tinnitus in children

- Incidence and prevalence not known
  - Not asked
  - 12% of the general pediatric population and up to 55% of children with hearing loss
  - Does not mean it's bothersome but should be investigated
    - Tinnitus may start in childhood
      - "My little friend"
    - Treating may address attention and concentration

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Educational impact of tinnitus

- Quiet is the "enemy" of the person with tinnitus
- Quiet reading may be distracting/student may have difficulty with concentration
- Need to ask/discuss with the student
- Hearing aids with a habituation device
- Tinnitus app

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Noise exposure and noise induced hearing loss in teens

- Growing number of teens with noise induced hearing loss
- Recommendation that in addition to current hearing screening frequencies, 6000 Hz be added to the standard screening in high school

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What constitutes "normal" hearing

Functional issues in hearing/listening

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Isaac's case

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Jack's case

What is asymmetry?

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The concept of hidden hearing loss

- Normal audiogram but listening complaints
- Original Kujawa and Liberman research related to noise exposure
- David Moore at Cincinnati Children's Hospital indicates that up to 20% of children have "difficulty hearing" and understanding in less than optimal environments despite a normal audiogram
- In our clinic, we define these as "hearing difficulty"

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Overlap with auditory processing disorders

- Moore's research separates the "umbrella" APD term from these children who have hearing difficulties (uses electrophysiology also)
- How do we address this?
  - Normal peripheral hearing acuity
  - Hearing aids
  - FM/DM technology
- Expanding role of hearing and understanding what hearing means

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Resources for parents

- Whose IDEA is this? (Google Whose Idea is this?)
  - https://education.ohio.gov/getattachment/Topics/Special-Education/Students-with-Disabilities/Physical-or-Mentally-Handicap/Whose-IDEA-Is-This-A-Parent-s-Guide-to-the-Individ/Whose-IDEA.pdf.aspx
- Educational Advocacy for Students Who Are Deaf or Hard of Hearing: The Hands and Voices Guidebook
  - www.handsandvoices.org
  - 800-4220422

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