Cards against Pediatric Audiology: Maximizing outcomes using evidence and not “gaming the system”

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LEARNING OBJECTIVES:

- At the end of this session, the participant will be able to:
  - Describe current diagnostic principles in pediatric audiology
  - Discuss current “best practices” in pediatric audiology based on current evidence
  - Describe ethical considerations related to diagnosis of hearing loss in children
“BEGIN WITH THE END IN MIND”

Covey 1989
May raise more questions than answers

- Children as our patients
  - How do we address best practices for our individual patient

- Pediatric audiology as a public health issue
  - How do we address the best practices for all children
The question is what is “the end”?

- How to “set the stage”?
- For most families, it’s a happy and successful life for their child
- The question then becomes “How does one define success?”
  - This answer will be as varied as the number of people sitting in this room and as varied as the patients we see
- What are the components that lead to getting to “the end”
THE CONCEPT FOR THIS PRESENTATION

- Based on “Cards against Humanity: A party game for horrible people”
  - My friends who are into this game like it because of the irreverent things that one can say in reaction to a question that is asked during the game
  - Black cards are the questions: An example:
    - I’m sorry, Professor, but I couldn’t complete my homework because of:_________________________
  - White cards are “answers”:
    - Some examples:
      - Child beauty pageants
      - A middle aged man on roller skates
      - Spectacular abs
      - Domino’s Oreo dessert pizza
“A PARTY GAME FOR HORRIBLE PEOPLE”
So, the context of this “game” is the focus

- If I were playing this with those of you in this room, I would likely be conservative in my answers, play it safe, and cover myself
- If I were playing with my “horrible” friends, I would likely be less conservative, live on the edge a bit more, and be more irreverent
So, the context of this “game” is the focus

- In my 30+ years as an audiologist that works primarily with pediatric patients, I have met very few “horrible” pediatric audiologists, and they stand out (e.g. the audiologist who mismarked ABR waveforms repeatedly, underreporting hearing loss consistently)

- However....
However....

- We are shaped by our environment, our peers, the expectations that others have of us...
- How do we, as pediatric audiologists, keep on raising the bar, how do we support each other, how do we change this for the kids and families we serve?
- Parents and other professionals: How do you tell us what you expect of us????
MY OWN HISTORY AS A “PEDIATRIC AUDIOLOGIST”

- 1982: Identified child with moderate to severe hearing loss at age 2 ½ years
  - Good job”
  - Fit with hearing aids at a little older than 3
  - Analog hearing aids
  - This was likely our “best practice”

- 2014: Identified child with moderate to severe hearing loss at age 6 years
  - Where are we in terms of best practices?
A COUPLE OF CAVEATS:

- I am going to give some examples today of what might potentially be considered “horrible” pediatric audiology
  - Used to illustrate points...we all make mistakes, most specifically I do
  - Learning from mistakes
- I realize that I’m preaching to the choir today....
SO MANY KIDS/SO LITTLE TIME

- Sheer amount of knowledge needed has increased
- Sheer amount of skills needed has increased exponentially
- The landscape of pediatric audiology is constantly changing:
  - My first job as a pediatric audiologist: 30 week preemie was a little baby; accessing these little ones was necessary and always difficult
  - A couple of years ago, I evaluated a 14 month old who was born as a “micro preemie” at 21 weeks and at birth weighing less than “the total of 2 boxes of staples”
The question is what is “the end”?

- What are current best practices and are we addressing these?
- Realist or idealist?
  - Should I go back to Ohio with my crazy ideas
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 “science”: genetics, microbiology, neurology, embryology
A COUPLE OF EXAMPLES OF GENETICS

- Parent who sent me an email: “You are the 7th audiologist that I will have consulted with about my daughter. I’m ready to give up….none of them was aware of BOR syndrome, which she has…”

- campUS, a transition camp for teens with hearing loss at Ohio State: Two families in our parent group. Both teens have CHARGE syndrome/association. Parents told our group that we needed was to understand about the genetic condition and how it framed their decision making (e.g. cardiac conditions)
WHAT ARE THE MAIN ISSUES FACING PEDIATRIC AUDIOLOGY???

- How to frame these issues?
BEST PRACTICES: WITHIN OURSELVES AND WITHIN OUR PROFESSION

- What constitutes a pediatric audiologist? Who can call themselves a pediatric audiologist?
- Is it based on number of years of experience? Population in which you primarily work?
- Audiology as a “young but growing profession”: what is our “standard of care”?
  - Conflict disclosure regarding my roles with American Board of Audiology
  - Starts with a practice analysis: Why is this necessary?
PEDIATRIC AUDIOLOGY SPECIALTY CERTIFICATION (PASC): A MODEL

- Mature professions define their scope of care
- Blueprint for PASC
  - Content and Percentages
    - Laws and regulations: 10%
    - General knowledge about hearing and hearing loss: 20%
    - Child development: 9%
    - Screening and Assessment procedures: 21%
    - Counseling: 9%
    - Communication Enhancement Technology: 16%
    - Habilitation/Rehabilitation Strategies; Educational Supports: 15%

- Breadth of the scope of pediatric audiology
Pediatric Audiology Specialty Certification (PASC): A Model

- Specialty certification in mature professions: A paradigm shift in audiology
  - Definitions of terms
    - Board certified
    - Fellow
- Why have specialty or board certification? Consumer confidence/trust
- Experience required
- Test
PEDiatric audioloGY S pecialty cerT IFICatIoN (PASC): A mOdEl

• Conclave
• A work in process/progress
  • Measurement against a standard of care
  • Consideration as we move the profession of audiology ahead
• More information at:
  • http://www.boardofaudiology.org/pediatric-audiology-specialty-certification/
FROM AUDIOLOGIST TO THE PROFESSION OF AUDIOLOGY

- Standards of care: Levels of evidence
  - Expert panels
  - Range of organizations approaching options/services in the pediatric population
  - American Speech-Language-Hearing Association (ASHA) guidance
    - [http://www.asha.org/aud/pediatric-ed/#1](http://www.asha.org/aud/pediatric-ed/#1)
  - American Academy of Audiology
    - Practice Guidelines
    - Audiologic Guidelines for the Assessment of Hearing in Infants and Young Children (2012)
EVIDENCE FROM OTHER SOURCES

- Centers for Disease Control
  - Early Hearing Detection and Intervention State Programs (EDHI)
    - http://www.cdc.gov/ncbddd/hearingloss/ehdi-programs.html
  - Quality Indicators created based on evidence: developed as benchmarks for programs
    - Examples:
      - 1-3-6 is a benchmark, based on research by Yoshinago-Itano and colleagues
      - Number of infants screened before hospital discharge: 98% of 4 million infants born meet the 1 month mark
      - Number of infants referred for diagnostic testing
1-3-6 benchmark

- Follows national standard
- “1” is great! Being able to screen infants before they leave the hospital is excellent
- “3”, might be considered a “black hole” in most states

What delays referral or definitive diagnosis of hearing loss?

- Capacity
  - Difficulty getting child into the system
- Training
- “no show”
- “Driving across the mountains”
- Ears not clear
- How long do we wait?
INFORMATION FROM MINNESOTA

- 1-3-6 benchmark
  - Lack of definitive diagnosis at 3 months
    - Follow the national trend of not following “best practice”?
      - Ears not clear
      - Difficulty getting an ABR/ASSR
      - Not performing bone conducted ABR
      - Use of multifrequency tympanometry
      - Up to 6 weeks for re-evaluation
      - Each delay increases possible need for sedation
INFORMATION FROM MINNESOTA

- 1-3-6 benchmark
  - 6 month benchmark
    - Fit within amplification, if that is part of the plan, within one month of identification of the hearing loss
    - Delayed confirmation of hearing loss results in delayed fit of hearing aids
  - How significant is this issue?
  - Research by many, including Ryan McCreery at Boys Town, suggests that this is significant
AN EXAMPLE: INFORMATION FROM MINNESOTA DEPARTMENT OF HEALTH

- 1-3-6 benchmark
  - 6 month benchmark
    - Referral to early intervention
      - What are criteria for referral?
      - Is a hearing loss a hearing loss or are their criteria around what constitutes a hearing loss?
        - Unilateral hearing loss/high frequency hearing loss, etc.
      - What is the standard of care
      - Whose decision is it to determine who qualifies?
EVIDENCE-DRIVEN DECISION MAKING IN PEDIATRIC AUDIOLOGY

- Why our knowledge may “hurt” our decision making for pediatric patients
  - Everyday Bias by Howard Ross (2014)
    - “If you are human, you are biased”
    - Fundamental and unconscious

- Decisions that we may make
  - Not to refer child to early intervention based on the belief the child may not qualify or may not need the services
    - Limits data collection (important in evidence)
    - Limits potential benefit to child and family
    - Does not support current evidence
Evidence-driven decision making in pediatric audiology

Decisions that we may make

- FM system on a child with hearing loss
  - When and where?
- Follow-up on hearing screening failure for older children
- CI referral
- Advanced features on hearing aids—when and where to “turn them on”
  - Frequency lowering technology: Who makes decisions regarding this information?
    - Evidence based or manufacturer recommendation?
REVIEW OF EVIDENCE BASED PRACTICE
“A PARTY GAME FOR HORRIBLE PEOPLE”
C\textsc{ards against pediatric audiology}: a clinical experience that results in horrible audiology

- 15 year old has been seen by an audiologist in a rural community annually for an audiologic evaluation. He has complained he can’t hear well with his hearing aids. His hearing loss has been progressing and at one point, his mom asked about a cochlear implant. The audiologist indicated that she doesn’t know much about cochlear implants and wouldn’t recommend one anyway. The ENT concurred.
  - This young man ended up at a CI center. Significantly underfit with amplification. Both patient and his mom asked about testing they had never known was available. Great CI candidate; surgery was performed in April 2015; activated late May, 2015
Cards against pediatric audiology: A clinical experience that results in horrible audiology

- Family ends up at our clinic:
- Both parents have hearing loss that was identified at age 14 for mom and age 23 for dad
  - 4 kids: 2 have hearing loss, 2 do not
  - 8 year old son “kinda” passed universal newborn hearing screening (results equivocal)
  - “Cookie bite” moderate loss
  - Genetics “negative”
  - Have had GREAT audiology over past few years
  - Recently moved to Columbus; son has 6 year old hearing aids and they want to purchase new hearing aids
Family ends up at our clinic after:

- Meeting with a “pediatric” audiologist
- Wanted data on hearing aid options
- Reportedly were told
  - Difference between manufacturer X and manufacturer Y
    - “They” like X better for kids
    - X’s aids come in “kid friendly” colors that are better than Y
  - Family wanted to talk about FM system and audiologist said that “wasn’t really her thing”
  - Child fit with soft skeleton earmolds; parents asked why and audiologist said she wasn’t sure why (although she had made the impressions and ordered the earmolds)
In touch with our own “feelings” and beliefs

How do we perceive children we work with who wear hearing aids?

- Pitty? What a shame?
- Empower vs. enable
- How do we do this as a profession?
- Building kids with good self-esteem; “bully proof”

“The girl with the hair”

- Audiologist told the family that she only needed to wear her hearing aids when she was at school, never on weekends or summer
- Hide hearing aids with her hair
- Lunch in middle school in the counselor’s office
“Too much “group think”
“Setting a higher standard”

FAMILIARITY BREEDS CONTEMPT

LEGEND

R L
AIR  O X
AIR MASKED ∆ □
BONE  < >
BONE MASKED [ ]
SOUNDFIELD _
AIDED A
NO RESPONSE NR

OTOSCOPY | TYPANOMETRY
---|---
L | R L
 NORMAL | NORMAL
 CERUMEN | NEG PRESSURE
 E TUBE | REDUCED MOBILITY
 OTHER | FLAT
amber | HYPERMOBILITY
 colored

HEARING AID DATA

NAURAL V RIGHT LEFT
  SRT SAT DISCRIM MATERIAL

RIGHT 110+
LEFT 710
SOUND FIELD
AID

HEARING THRESHOLD LEVEL IN DB (ANSI-1969)

FREQUENCY (HERTZ)

250  500  (1500)  1000  (3000)  4000  8000

STIMULUS: PURE TONE, NARROWBAND NOISE, WARBLE, OTHER
RESPONSE: STANDARD, FLAT, COR, OBSERVATION
RELIABILITY: GOOD, FAIR, POOR

Canal vol: 0.6 ml R/L
HOW DO WE CHANGE THE FACE OF PEDIATRIC AUDIOLOGY?

A high tide floats all ships: how can we all do better?
Evidence based practice integrates “...individual clinical experience with the best available external clinical evidence from systematic research.”

- Sackett, Rosenberg, Muir Gray, Haynes, & Richardson (1996) p. 71
An hierarchy for evidence: Seminal paper by Cox (2005)

<table>
<thead>
<tr>
<th>Level of Evidence</th>
<th>Type of Evidence</th>
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<tbody>
<tr>
<td>1</td>
<td>Systematic reviews and meta-analysis of randomized control trials (RCT)</td>
</tr>
<tr>
<td>2</td>
<td>Randomized control trials</td>
</tr>
<tr>
<td>3</td>
<td>Nonrandomized intervention studies</td>
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<tr>
<td>4</td>
<td>Nonintervention studies; cohort studies, case-controlled studies, cross, sectional surveys</td>
</tr>
<tr>
<td>5</td>
<td>Case reports</td>
</tr>
<tr>
<td>6</td>
<td>Expert opinion</td>
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CHALLENGES IN EVIDENCE BASED PRACTICE IN PEDIATRIC AUDIOLOGY

- Randomized control trials, historically, are the “gold standard”
- Challenges in pediatric audiology
  - Incidence rate of permanent childhood hearing loss 1-3/1000 births, making obtaining sufficient sample sizes for RCT difficult (Moodie et al, 2011)
  - Multicenter research needed (Moodie et al, 2011)
  - Ethical considerations in working with pediatric population (Moodie et al, 2011)
  - The issue of translating lab research to clinical practice
DATA FROM OUTCOMES FROM CHILDREN WITH HEARING LOSS (OCHL): RYAN MCCREERY AND HIS RESEARCH GROUP AT BOYS TOWN NATIONAL RESEARCH HOSPITAL

- How does OCHL build on previous research?
  - Some demographic variables included:
    - Degree of hearing loss
    - Socioeconomic status
- Addition of malleable factors
  - Aided audibility
  - Hearing aid use
  - Language input
  - Intervention / Service provision
Clinical practice guidelines (CPGs)

“Systematic development of statements to assist practitioners and patient decisions about appropriate healthcare for specific clinical circumstances.” (Field and Lohr, 1990, p. 38)

These are important because they will address the ‘relevant’ clinical questions, address potential interventions, and pursue desired outcomes.

Have come about due to desire for public to have stronger accountability, transparency, and perhaps regulation.

Dissatisfaction with education/training/variability in healthcare (Weisz et al, 2007)
Question raised by Moodie and her colleagues (2011): How do we address our knowledge-to-action gaps?

- Issues
  - Researchers don’t understand how to take their findings and help clinicians apply them
  - Clinicians do not have skill, education, training, or equipment to implement the CPG recommendations
  - Multiple organizations create their own clinical guidelines and don’t work together; multiple CPG on the same topic
    - This may be improving based on a conversation with Erin Miller, current President of American Academy of Audiology
CLINICALLY RELEVANT EVIDENCE BASED PRACTICE

- Great article by Catherine Palmer and her colleagues:
- Statistical significance vs. practical significance
- Reading research from the perspective of a clinician
- [http://journals.lww.com/thehearingjournal/Fulltext/2008/10000/Is_it_REAL__Research_Evaluation_for_Audiology.4.aspx](http://journals.lww.com/thehearingjournal/Fulltext/2008/10000/Is_it_REAL__Research_Evaluation_for_Audiology.4.aspx)
CONSIDERING BEST PRACTICES IN PEDIATRIC DIAGNOSTICS: CHANGING THE FACE OF AUDIOLOGY

- Wanting to be an optimist but being a realist:
  - The answer: 48 seconds
  - The question: How long does it take to administer a speech in noise test to a typically developing adult
  - Speech in noise testing as a standard of care in the profession of audiology: Evidence that this must be a component of an audiologic evaluation (more than a decade ago)
  - The other answer: “I don’t have time to include this type of testing in my test battery”
  - If this is true in a basic audiologic evaluation in adults, how do we ever change the landscape for children?
WHAT EXAMPLES OF BEST PRACTICES BEEN MODELS FOR PEDIATRIC AUDIOLOGY

- Cochlear implants
  - Clearly, outcomes can be influenced with an evidence-based approach to candidacy, selection, fitting, and follow-up
  - Are CI’s superior to hearing aids for the same degree of hearing loss or are the outcomes based on reducing variability in decision making based on evidence?
- Partnerships, CPGs, reimbursement
- Access to AR/speech-language therapy services
- Off label uses
- My own “begging” related to a hybrid implant for one of my adult patients
SOME EVIDENCE BASED ASPECTS OF DIAGNOSTIC AUDIOLOGY IN CHILDREN: CHANGING PROTOCOLS

- Use of high frequency/multifrequency tympanometry in infants age 7 months or below (Keefe, Bulen, Arehart, & Burns, 1993).
  - Use of 1000 Hz probe tone provides valid indicator of middle ear function
  - Use of 220-226 Hz probe tone provides little value in dx. process for children of this age
  - The reality: Many audiologists use Type A, B,C with this population based on information reported from many sources (Departments of Health, tertiary sites, etc.)
  - Ethical? Billing? Educational model
SOME EVIDENCE BASED ASPECTS OF DIAGNOSTIC AUDIOLOGY IN CHILDREN: CHANGING PROTOCOLS

- Use of high frequency/multifrequency tympanometry in infants age 7 months or below (Keefe, Bulen, Arehart, & Burns, 1993).
  - This type of practice “error” prohibits us from moving ahead with new technology options that provide even better outcomes for identifying middle ear pathology in infants and young children, such as use of wideband reflectance
    - Better identification of a wider range of pathologies
    - Better ability to use the “cross check principal”, which still supports pediatric diagnosis (for example, correlation between DPOAE results).
  - How is audiology “essential” in the hearing loss identification process?
  - Great text to address this information: Acoustic Immittance Measures (2014) by Hunter and Shahnaz
Some evidence based aspects of diagnostic audiology in children: changing protocols

Addressing myths vs. reality

ASSR vs. ABR


1) Infants are lost to follow-up

2) Takes too long to complete diagnostic assessments in infants (time for testing and multiple sessions needed)

3) Too few qualified audiology clinics performing assessments

Desired outcome is to decrease test time and improve accuracy of diagnostic measures, in order to reach the goals of the EDHI programs
Some evidence based aspects of diagnostic audiology in children: changing protocols

- The challenge of keeping up with current research and accepting that researchers are constantly generating new information and contributing to the state of the science.
Some evidence based aspects of diagnostic audiology in children: changing protocols

- Current knowledge in ASSR has changed (Venail, Artard, Blanchet, Uziel, & Mondain, 2015)

Use of CE-CHIRP stimuli
  - Provides quick and reliable assessment of auditory thresholds, particularly in the low frequencies, in infants and children for ASSR
  - Dramatically improves time for testing

- Changing the culture of diagnostic testing for infants
  - Knowledge, training, and equipment
Some evidence based aspects of diagnostic audiology in children: changing protocols

- Visual reinforcement audiometry
- The science is directive in how to maximize this type of behavioral testing
- Requires: Head turn in one direction only, use of insert earphones, clear reinforcement schedule, catch trials, etc.
- (Diefendorf and Gravel, 1996)
- Demonstration: https://www.youtube.com/watch?v=WQqw3jp1WK8
Some evidence based aspects of diagnostic audiology in children: changing protocols

Visual reinforcement audiometry

• How many audiologists use VRA in this manner?
• Maximizes ability to obtain reliable behavioral testing that is both ear and frequency specific at a young age
• Again, the cross check check principle suggests that behavioral and electrophysiologic testing are a great augment for each other at this age.
Some evidence based aspects of diagnostic audiology in children: changing protocols needed

- Establishing a strong school based hearing screening program
- How do we influence what we don’t “control”
- Multidisciplinary “responsibility” (nurses, SLPs, physicians, audiologists)
- What are the barriers to creating this?
- Is there currently enough evidence to add 6000 Hz, particularly for screening teens
- What about children with developmental disabilities
  - My 6 year old that was identified this year
Again, how to we challenge what we know and what we do to incorporate state of the science?

- How do we incorporate the “art” of pediatric audiology with the “science” of pediatric audiology?
  
    
    - “Expert opinion” to enhance the ability to obtain accurate behavioral results from children
    
    - Tips and “tricks of the trade”
Again, how to we challenge what we know and what we do to incorporate state of the science?

- How does the next generation of audiologist learn to be a pediatric audiologist
  - Incorporating best practices, CPGs, standard of care into the curriculum and clinical education in University programs
  - Blueprint from PASC
  - Acculturation of our profession
    - The “ivory tower”
    - “No one in the real world does it that way”
    - “I don’t believe in evidence based practice”
Supporting best practices: Implementing evidence

- Implementation or uptake of new knowledge won’t happen merely by creating knowledge, creating CPGs from the knowledge, and disseminating the knowledge (Moodie et al, 2011)

- A knowledge translation approach has been used in successful implementation of new knowledge based on evidence in the field
  - Ties in with World Health Organization (WHO) approaches
  - An active process that involves researchers, policy makers, audiologists, and patients
Supporting best practices: Implementing evidence

- Developing communities of practice (CoPs)
  - Individuals who share common goals and enthusiasm to address a topic, problem, or desired outcome
  - The group at this meeting, for example, can become a CoP with a focus on how to better provide outcomes for children in the state of Kentucky by committing to best practices in EDHI, for example
Supporting best practices: Implementing evidence

- Developing communities of practice (CoPs)
  - The value:
    - Moodie et al points out that earlier studies suggest that 30% of children fit with hearing aids in North America receive care inconsistent with current evidence based guidelines.
An ethics decision-making flow-chart (adapted from Chabon and Morris, 2004 by Fitzgerald, 2015)

Ethical Decision-Making

Am I facing an ethical dilemma here?

What are the relevant facts, values, and beliefs?

Who are the key people involved?

State the dilemma clearly.

Evaluate:
1) Ethical Principles
2) Code of Ethics
3) Social Roles
4) Self-Interests

Does your proposed course of action lead to CONSENSUS?
If YES – then proceed …

If NO

Analysis

What are the conflicts that arise from each action?

What are the possible courses of action one could take?

PROPOSED COURSE OF ACTION
ENCOURAGING CHANGE

[Image of the book "SWITCH: How to Change Things When Change Is Hard" by Chip Heath & Dan Heath]
ETHICAL ISSUES IN PEDIATRIC AUDIOLOGY

- Using a standard of care to support ethical practices
  - Our profession has “fallen in love” with the focus on manufacturer relationships as what defines ethics
    - Conflict of interest is important but not the be all end all when it comes to ethics
  - Going to go back to “old school” ethics
    - All codes of ethics, all ethical practices are focused on the Hippocratic oath
      - “First do no harm”
ETHICAL ISSUES IN PEDIATRIC AUDIOLOGY

• All ethical codes have a history from a number of concepts, the two that might be most relevant to us at the moment as beneficence and non-maleficence
  • Beneficence: The act of “doing good”; actively doing good
  • Non-maleficence: avoiding a harmful act, avoiding evil
“**DOING GOOD**” IN PEDIATRIC AUDIOLOGY

- Improving on 1-3-6
  - My long ago history with newborn hearing screening
    - 1986-1987: Westchester County, NY
    - What if we don’t believe in newborn hearing screening and then a kid we chose not to screen shows up with a hearing loss?
  - What about today: How to do a better job with benchmarks
    - Decreasing variability
    - Exploring how to improve the “3”
      - Creative thinking outside the box: Oregon Health and Sciences
“Doing good” in pediatric audiology

- The audiogram only tells part of the story
- Traditional questions
  - Unilateral hearing loss
  - Mild/minimal hearing loss
  - Auditory processing disorders
- Emerging areas
  - “Hidden hearing loss”
  - Tinnitus assessment
    - 12% of the general pediatric population and up to 55% of children with hearing loss
      - Attention issues
      - Tinnitus “blocks” hearing
“DOING GOOD” IN PEDIATRIC AUDIOLOGY

- Aural rehabilitation programs
  - What are the outcomes we desire?
  - Why have the outcomes been so significant for CIs?
    - Part technology, part AR
  - Where do we build/find good partners in this process
    - Cards against peds: The school SLP who says “Well, I don’t know anything about hearing loss…” or “You know I really don’t ‘do’ hearing loss?”
    - Changing the reimbursement option
      - The politic and/or the practical of why SLPs get reimbursed and audiologists do not
- Building partners in the world of SLP
Playing the cards we’re dealt: Cards against peds that may be out of our control?

- Consistent hearing aid use
  - Retention of the aid
  - Support
  - “Battles”
    - How to pick them
    - Actor on a stage
- Who do we serve—parent(s), child, etc.
- How do we “keep the door open”? Lesson from “Jimmy”
The world is changed by your example, not your opinion.

Paulo Coelho
Partnerships in the Process: Advancing Pediatric Audiology

- Physicians
  - How prepared are they to be the “medical home” for a child with a hearing loss?
  - Recent information related to EDHI follow-up
  - What is “best practice” for hearing loss detection and support for older children?
  - What is the role of audiology in this process?
THE ENVIRONMENT OF LEARNING: EVIDENCE BASED APPROACHES TO SUPPORT A PARTNERSHIP WITH EDUCATORS...WE ARE ALL EDUCATIONAL AUDIOLOGISTS!

- Classroom acoustics
  - Why preferential seating is not an effective acoustic solution
- Hearing loss identification in school aged children
- Hearing loss prevention
  - Evidence based approach is Dangerous Decibels
- Literacy and reading
Partnerships in the Process: Advancing Pediatric Audiology

- Parents
  - What do they want/need from audiologists?
  - The two questions patients want a physician to ask
    - What can I do for you today/why are you here?
    - What can I do to facilitate for you in the reason that you are here?
PARTNERSHIPS IN THE PROCESS: ADVANCING PEDIATRIC AUDIOLOGY

- Parents
  - Survey performed by the Ohio School for the Deaf
    - Parents of teenagers wanted to understand the etiology and impact of their child’s hearing loss
    - Results of survey similar to survey results for parents who participate in CampUS program
  - Counseling, Aural Rehabilitation, and Education (CARE) project (Sexton)
    - Grant from Oticon allowing 10 state EDHI programs to participate
LIMITED INFORMATION ABOUT FAMILY CENTERED APPROACHES TO WORKING WITH CHILDREN WITH HEARING LOSS BEYOND EARLY CHILDHOOD

- Four predominant findings:
  1. parents’ needs for various types of information
  2. parents’ continuing need for a family-centered approach to service provision, beyond early intervention
  3. parents’ concerns about education and future opportunities for their children
  4. concerns regarding parenting deaf and hard-of-hearing children with additional needs
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/
LETTER FROM THE FUTURE

- Beginning with the End in Mind
Wrap up

- The role of audiology in best practices
  - What can government agencies, professional organizations, and manufacturers do to partner with us
- The role of audiologists in best practice
  - How do we challenge everything we know? How do we question our biases, believe in evidence, and preserve our own sense of the “art” of what we do?
- How do we capitalize on the possibilities for children and their families?
- How to not end up as a “horrible audiologist” in the game...lifting our practice and lifting our profession?
“I did then what I knew how to do. Now that I know better, I do better.”

*MAYA ANGELOU*
REFERENCES


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