

# Pediatric Hearing Aid Use: Parent Reported Challenges

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Neither I nor any member of my immediate family has a financial relationship or interest (currently or within the past 12 months) with any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients.

I do not intend to discuss an unapproved/investigative use of a commercial product/device.





Hearing aid fittings are routine in infancy

(Muñoz et al., 2013)



# Parents are central in the intervention process

## Parents Need

- Information
- Skills
- Support

To be effective day-to-day





# Challenges Reported

- Child behavior
- Activities
- Retention
- Child state
- Transition times
- Acceptance
- Troubleshooting problems

(Sjoblad et al., 2001; Moeller et al., 2009;  
Walker et al., 2013; Muñoz et al., 2013)





## Data logging: hearing aid use is not consistent

Study	N	Ages	Hours of use
Walker et al., 2013	133	5 mo. – 7 yrs	8 (range 2-10)
Jones et al., 2010	5000 (total)	0 – 4 yrs (sub-set)	5
Jones, 2013	2160	0-4 years	4.5
Muñoz, et al., in press	12	7 – 35 months	4 (range 0-11.5)





If you change the way you look at things, the things you look at change

~ Wayne Dyer



# Parent Hearing Aid Management Inventory

Parent Hearing Aid Management Inventory

Hearing aids need to be carefully managed for your child to learn how to listen and speak. Your child needs to use well functioning hearing aids whenever he/she is awake. How your child's hearing aids are managed every day is a key part of the intervention process and hearing aids can be hard. You need to learn new information, skills, how to recognize problems, and what to do when you find out what you need to help you manage your child's hearing aids.

**I. INFORMATION:** Please mark the box for each item.

**I want information about:**

1. Emotions I feel

2. Worries

## Acceptance and Action Questionnaire II (AAQ-II)

Below you will find a list of statements. Please rate how true each statement is for you by circling a number next to it. Use the scale below to make your choice.

1 never true	2 very seldom true	3 seldom true	4 sometimes true	5 frequently true	6 almost always true	7 always true
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7
1	2	3	4	5	6	7

- My painful experiences and memories make it difficult for me to live a life that I would value.
- I'm afraid of my feelings.
- I worry about not being able to control my worries and feelings.
- My painful memories prevent me from having a fulfilling life.
- Emotions cause problems in my life.
- It seems like most people are handling their lives better than I am.
- Worries get in the way of my success.

This is a one-factor measure of psychological inflexibility, or experiential avoidance. Score the items by summing the seven items. Higher scores equal greater levels of psychological inflexibility.

Bond, F. W., Hayes, S. C., Baer, R. A., Carpenter, K. M., Guenole, N., Orcutt, H. K., & Zettle, R. D. (in press). Preliminary psychometric properties of the Acceptance and Action Questionnaire - II: A revised measure of psychological inflexibility and experiential avoidance.

and help you manage your child's hearing aids?

## Patient Health Questionnaire (PHQ-9)

Over the last 2 weeks, how often have you been bothered by any of the following problems? (use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite—being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns

10. If you checked off any problems, how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?

- Not difficult at all
- Somewhat difficult
- Very difficult
- Extremely difficult



# Responses

- ❖ 37 families (54% return rate)
  - ❖ Utah and Indiana
  - ❖ 35 mothers, 20 fathers
    - ❖ Majority Caucasian, college-educated, two-parent homes, spoken language primary mode of communication
- ❖ 37 children (M=22 months; SD=8.07)
- ❖ Binaural hearing loss
- ❖ Hearing aid experience (M=15 months)
- ❖ Degree of HL/multiple disabilities not collected



# Information Gaps

Not provided by audiologist:

- ❖ 43% - other hearing devices (e.g., FM)
- ❖ 30% - hearing aid use
- ❖ 30% - referrals (e.g. EI)



# Skill Gaps

Not taught by audiologist:

- ❖ 59% - how to do a Ling 6 Sound check
- ❖ 57% - how to teach others to check hearing aids
- ❖ 36% - troubleshooting hearing aids



# Lack of Confidence in Performing Skills

0 = no confidence; 100 = complete confidence

Skill	n Mothers	M (SD)	n Fathers	M (SD)
LING sound check	24	47.08 (41.54)	16	48.44 (47.42)
Troubleshoot function	25	51.52 (33.04)	16	50.00 (38.25)
Daily listening check	25	70.00 (36.60)	17	53.76 (46.83)
Teach others listening check	23	61.09 (39.48)	17	63.24 (40.50)
Keeping hearing aids on child	28	78.39 (29.72)	16	70.31 (36.67)

**64% not listening to HA's daily**



# Communication Gaps

Aspects of communication not addressed:

- ❖ 64% - support for managing emotions
- ❖ 49% - help with how to talk to others about HL
- ❖ 47% - enough time to talk about emotions



# Expectations

Expectations not addressed by audiologist:

- ❖ 69% - parent emotions about hearing loss
- ❖ 68% - what hearing aids cannot provide
- ❖ 41% - how to determine progress
- ❖ 39% - demands of daily management
- ❖ 24% - frequency of earmold replacement



# Parent Concerns

- ❖ 73% concerned with how to manage child's feelings about wearing HA's
- ❖ 60% of mothers (45% fathers) frustrated with daily management
- ❖ 57% of mothers (40% fathers) lacked confidence in ability to detect a problem with the HA
- ❖ 29% of mothers (10% fathers) felt child was not benefitting

# Hearing Aid Use Challenges

- ❖ 75% - activities
- ❖ 59% - child behavior
- ❖ 46% - frustration keeping hearing aids on
- ❖ 37% - distractions from other children in home
- ❖ 37% - other caregivers' ability to manage HA's

**37% use hearing aids less than 5 hours per day**



# Psychosocial Impact

- ❖ 96% handling internal experiences in healthy ways (M = 14.5; SD = 6.6)
  - ❖ (e.g., recalling unpleasant emotions, worries/emotions controlling life)
- ❖ 22% experienced mild to severe symptoms of depression
  - ❖ greater for mothers (M=3.7; SD= 3.9; range: 0-15) than fathers (M=1.8; SD=2.9; range: 0-10)
  - ❖ 40% of parents indicated that symptoms of depression were interfering with daily life activities



# Research Needed

- ❖ Types of challenges that influence hearing aid use
- ❖ Effective support interventions that can be provided within routine care
- ❖ Training needs of providers related to effective communication and support strategies
- ❖ How hearing aid use impacts developmental outcomes





## Opportunities for improvement

- Provide comprehensive information
- Monitor and support skill acquisition
- Address emotional needs (not just informational)
- Collaborate with other intervention providers and medical home



Questions?