



Hearing Aid Retention for Infants and Young Children

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Keeping hearing aids on infants and young children can be a challenge. A child may take the hearing aids off or they may not stay on the child's ears. Infants are actively finding out about their world and may remove hearing aids as part of their learning. Toddlers may remove hearing aids as part of exploring their environment and may even attempt to take them apart. Preschoolers may remove them as part of a power struggle with parents, especially when having a temper tantrum.

Yet, for a child with hearing loss to succeed, it is critical that he or she wear hearing aids full time. Full-time use of hearing aids will likely make a significant difference in language development, literacy and, potentially, lifelong outcomes. Early hearing aid use is critical to take advantage of brain plasticity. If a child wears hearing aids only four hours per day, it will take him or her six years to hear what a child with typical hearing hears in one year (Stovall, 1982). Even more critical, time is of the essence. Brain development has critical periods so auditory development needs to happen early (Berlin & Weyand, 2003; Boons et al., 2012; Boothroyd, 1997; Chermak, Bellis, & Musiek, 2007; Gordon, Papsin, & Harrison, 2004; Kraus & Anderson, 2012).

Factors Limiting Hearing Aid Use

Adjusting to hearing aid use can be very difficult for infants, children and their families. Putting hearing aids on a baby can be upsetting, and putting on hearing aids and taking a child out in public and to family gatherings can be difficult. Grieving parents may find it difficult to deal with comments about hearing aids from family and friends. Parents may find

excuses to limit the use of hearing aids. As children get older, they, too, sometimes find reasons to limit hearing aid use.

A number of factors can limit a child's hearing aid use. If hearing aids do not fit comfortably on infants and young children, it may be difficult to keep them on the head. Many parents report that it is difficult to keep the aids on the head, as the outer ear may bend when a large hearing aid is worn, causing the hearing aids to fall off. Using a pediatric ear hook and short earmold tubing may help to improve the fit of the hearing aid to the head size of a young child. Both infants and older children will have problems keeping hearing aids on the head when they are active. When hearing aids flop around or fall off while the child is active, parents may feel that it is easier to remove them than to deal with continually putting them back on. However, whenever the hearing aid is off, even for a few minutes, the child is missing language, listening input and auditory brain development, which should be avoided.

The Pediatric Hearing Aid Retention Project Survey

Because full-time hearing aid use is always the goal for a child with hearing loss, and because so many parents report that hearing aid retention is a significant challenge, we developed the Pediatric Hearing Aid Retention Project Survey in an effort to explore this problem further.

The survey was sent via email to parent groups and by mail to individuals who were members of the American Academy of Audiology and who identified themselves as pediatric audiologists. We sought information about which retention devices were most effective, what strategies parents recommended for keeping the hearing aids on, and what information parents learned from audiologists about steps to achieve full-time use of hearing aids.

The survey received responses from 286 parents and 101 audiologists. All respondents were asked to rate each product on effectiveness, child safety, durability and ease of use. Parents were asked questions about keeping the device on and working, and audiologists were asked about the level of compliance by families.



Survey Results and Implications

Table 1 shows responses provided by parents. Table 2 shows responses provided by audiologists. The results of the survey clearly illustrate that, although different families preferred different devices, as a group, the families have a significantly different view of the effectiveness and safety of the devices than do audiologists. For example, one device was rated as good by one-third of parents for effectiveness, child safety and durability, by two-thirds for ease of use, and by less than half for keeping the device on. The same device was rated as good by 75 percent of audiologists for effectiveness and child safety, by 58 percent for durability, and by 98 percent for ease of use. Several other devices had significant differences in ratings between parents and audiologists but there also were devices that received similar scores from both audiologists and parents.

Ear Gear, Hannah Anderson Caps and SafeNSound received the best ratings by both parents and audiologists. Critter Clips and Phonak Junior Kidz Clips received high scores from audiologists but not parents. The difference in parent and audiologist ratings is significant and may indicate that audiologists are not communicating with parents about this issue or that audiologists are overestimating the effectiveness of retention accessories that are most easily available to them. Further, audiologists may not be aware of the problems parents experience with hearing aid retention devices. As a result, audiologists may be making

TABLE 1: PARENT RATINGS OF HEARING AID RETENTION ACCESSORIES/STRATEGIES

Based on the results of the Children's Hearing Aid Retention Survey completed by 286 parents (Anderson & Madell, 2014).

Retention Accessory	Effectiveness	Child Safety	Durability	Ease of Use	Keeps Aids on & Working	Average of All Areas
Ear Gear	1	2	1	2	1	1
Cap	3	1	2	1	3	2
Safe-N-Sound	2	2	3	2	2	3
Wig / Toupee Tape	2	3	9	5	4	4
Oto / Critter Clips	7	8	5	5	5	5
Headbands	9	5	5	9	6	6

Parents were asked to rate each accessory as excellent, good, fair, poor or don't know. Scores were combined to report parents' opinion of the accessory in each category with 1 indicating most preferred.

recommendations without real practical information to draw upon.

We were concerned about the number of parents who reported never having heard of some of the hearing aid retention accessories. It ranged from 57 parents having never heard of one device to 159 parents having never heard of another. Of 101 audiologist respondents, the range of those who had not heard of specific devices was 23 to 54.

Tips for Audiologists

If parents are having a problem keeping hearing aids on a child, it would be critical to provide them with information about all of the available hearing aid retention accessories. Audiologists need to assume the responsibility of supplying this information to parents.

If you are an audiologist, make sure to check with the parents to determine if they are experiencing problems with

hearing aid retention for their child with hearing loss. Upon the child's initial visit to your office, parents should be told that there are accessories available to assist in retention and be given specific information to assist in selecting the appropriate product that will work for their child.

By collecting accurate information and working as a team, it should be possible to find appropriate retention accessories to keep children "on the air" in order to

TABLE 2: AUDIOLOGIST RATINGS OF HEARING AID RETENTION ACCESSORIES/STRATEGIES

Based on the results of the Children's Hearing Aid Retention Survey completed by 101 audiologists (Anderson & Madell, 2014).

Retention Accessory	Effectiveness	Child Safety	Durability	Ease of Use	Keeps Aids on & Working	Average of All Areas
Ear Gear	3	1	1	3	2	2
Cap	1	2	2	2	5	3
Safe-N-Sound	3	1	2	3	3	3
Wig / Toupee Tape	4	3	7	4	4	4
Oto / Critter Clips	2	1	3	1	1	1
Headbands	6	4	4	5	7	5

Audiologists were asked to rate each accessory as excellent, good, fair, poor or don't know. Scores were combined to report audiologists' opinion of the accessory in each category with 1 indicating most preferred.

facilitate listening, spoken language development and age-appropriate learning.

As a start, visit our websites to download the Children's Hearing Aid Retention Strategies brochure at no charge from successforkidswithhearingloss.com/hearing-aids-on and www.JaneMadell.com. Audiology clinics are encouraged to print ready-made brochures for families using this information. 

REFERENCES

Anderson, K., & Madell, J. (2014). Improving hearing and hearing aid retention for infants and young children. *Hearing Review*, 21(2), 16-20. Available at www.hearingreview.com/2014/03/improving-hearing-hearing-aid-retention-infants-young-children/

Berlin, C. I., & Weyand, T. G. (2003). *The brain and sensory plasticity: Language acquisition and hearing*. Clifton Park, NY: Thomson Delmar Learning.

Boons, T., Brokx, J. P., Dhooge, I., Frijns, J. H., Peeraer, L., Vermeulen, A., Wouters, J., & van Wieringen, A. (2012). Predictors of spoken language development following pediatric cochlear implantation. *Ear & Hearing*, 33(5), 627-639.

Boothroyd, A. (1997). Auditory development of the hearing child. *Scandinavian Audiology, Supplemental*, 46, 9-16.

Chermak, G. D., Bellis, J. B., & Musiek, F. E. (2007). Neurobiology, cognitive science, and intervention. In G. D. Chermak & F. E. Musiek (Eds.), *Handbook of central auditory processing disorder: Comprehensive intervention volume II* (pp. 3-28). San Diego, CA: Plural Publishing Inc.

Gordon, K. A., Papsin, B. C., & Harrison, R. V. (2004). Thalamocortical activity and plasticity in children using cochlear implants. *International Congress Series*, 1273, 76-79.

Kraus, N., & Anderson, S. (2012). Hearing matters: Hearing with our brains. *The Hearing Journal*, 65(9), 48.

Stovall, D. (1982). *Teaching speech to hearing impaired infants and children*. Springfield, IL: Charles C. Thomas.



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