

SUPPORTING CHILDREN AND ADOLESCENTS IN MAKING SOUND DECISIONS

Betsy Kammerer, PhD

Typically, hospital teams and families are well aware that age-appropriate involvement of the child in the decision-making and planning for cochlear implants (CIs) makes the surgery and rehabilitation process more comfortable for everyone. Although strategies to provide this kind of support vary with age, all children need appropriate knowledge and control and as much predictability and familiarity with the process as possible. Most clinics have counseling protocols when 1) making decisions about implants, and 2) preparing for surgery. Families report that the following suggestions have made the CI process more comfortable.

For either unilateral or bilateral implantation, pre-implant counseling should include a play and/or talking interview with the child to assess expectations and readiness and provide information. At Children's Hospital Boston, we use standardized questionnaires of behavioral status, such as the Behavior Assessment System for Children, to obtain a better understanding of the child's emotional style to prepare for their needs.

YOUNGEST CHILDREN (UNDER 5 YEARS)

Decisions. Young children typically trust their parents to make decisions that are good for them. Because young children aren't able to process all the language used around CI discussions, all adults involved need to be aware of their nonverbal messages. Serious expressions when asking or answering questions about CIs can be interpreted

Continued on page 2



TABLE OF CONTENTS

- 3 FITTING TIPS
- 4 TIPS FROM THE TRENCHES
- 4 PRODUCT UPDATES
- 6 BIONIC HIGHLIGHTS
- 7 TECHNOLOGY CORNER
- 7 RESEARCH NEWS
- 8 WEB CLASS UPDATE
- 8 CORRECTION
- 8 MAIL BAG

SoundWaves Newsletter for Professionals is a publication of Advanced Bionics, a Boston Scientific Company. To contact the editorial department, email: taras@advancedbionics.com.

Advanced Bionics Corporation
25129 Rye Canyon Loop
Valencia, CA 91355

www.BionicEar.com

Supporting Children and Adolescents Continued

by the child as meaning “something bad” is happening. Also, children will pick up on mixed messages, such as their parents’ excitement at the prospect of the child hearing more, as well as their anxiety about “something big” happening. Simple explanations using pictures may be the easiest way to communicate directly with young children. Collaboration with a child’s preschool staff to explain facts may also be helpful, as young children are usually comfortable and familiar with learning new information in a school setting.

Surgery. It’s important to remember that young children gain the most comfort from observing their parents’ demeanor. When parents are calm, confident, and strong, it will reflect on the child’s behavior. Parents should have a complete understanding of the surgical process so they can comfort the child, particularly during potentially stressful times such as immediately before anesthesia. Good eye contact from a calm parent can make a world of difference. Unsettling surprises can be avoided by checking each hospital’s website about rules concerning overnight stays, sibling visits, and how long the parent can stay with the child before surgery. Parents should also know when the IV is placed and how soon their child can wear a hearing aid or CI after surgery.

To prepare for this new and possibly disconcerting experience, we give the child a backpack to take to the hospital. It includes books about hospitals, paper surgical masks to decorate so they are not scared by seeing masks on doctors, simple toys, and lists of helpful hints. The Children’s Hospital Boston website has additional ideas for young children, including books to read, words to use, and calming techniques.

YOUNG SCHOOLCHILDREN

Decision. Young schoolchildren appreciate age-appropriate explanations of implants. It is essential, however, to probe their understanding of the facts, because children at this age are prone to add their own fantasies to the science. Despite what we thought were clear explanations, we’ve had children think they swallowed the CI or that they were getting an actual new ear. Watching them play or having them explain the implant to family or peers is a good way to discover their

facts and feelings. Time also is difficult for this age, so a calendar of all planned events is critical, including events like surgery and programming, as well as other family, school, and social events. Children need to understand that they will learn to use the implant over time, like they learn a sport, so they’ll need to be patient with their progress. School programs and professionals who know the child well can be excellent sources for teaching this concept.

Surgery. Children at this age are most fearful because they are old enough to worry about being cut, but not old enough to understand the safety or the science. Again, books are useful in bringing out feelings and fantasies, so we can use them to discover the child’s true understanding, worries, and expectations and then reassure them with facts. The clinic interview can also help with this process. Calm and honest explanations of surgery are important. Using carefully chosen words, such as, making a pocket for the magnet and taking special sleep medicine (rather than putting to sleep) will help children to avoid frightening associations. Photos are also helpful in making concepts more concrete. To avoid misunderstandings, it’s important for everyone who will come in contact with the child to use the same words or signs for terms, such as surgery, CI, and hearing.

Many children are worried about not waking up after the surgery; they should be calmly reassured. Preparation for surgery should allow the child to make as many choices as possible, including what to pack in the special backpack, what stuffed animal to bring, or, when possible, what flavor of anesthesia to use. Postsurgery planning also helps the child to focus on being well at home and not just on the procedure. For example, the child could choose books or movies on the first day home. During the hospital time, handheld games have proven to be particularly helpful in decreasing anxiety about the surgery. Having familiar toys and a predictable day is critical for the child’s comfort.

Children also can experience support from connecting with other children who have CIs. If they do not have peers with CIs, visiting a CI recipient allows the child to see the CI on someone’s head. Using email to connect with other children (with parental support) is also informative. Children should be encouraged to email members of the cochlear implant team to ask questions and to feel more connected to those involved with surgery. Adults should encourage children to ask questions during the evaluation process and, particularly, of the surgeon.

ADOLESCENTS

Decision. Research at our center has shown that adolescents with appropriate expectations and information are most likely to use the CI long-term. Adolescents are more at risk to become nonusers or poor users unless they fully understand the rehabilitation required for a potentially successful outcome. They must strongly agree that they want to have the implant. A clinical interview is particularly important for teens to ensure that there are no emotional barriers to an implant. It is also critical that they hear the experiences of other individuals implanted at their age. At Children's Hospital Boston, we've made a DVD, "A Sound Decision," of four adolescents discussing their experiences getting and enjoying cochlear implants. We're also in the process of completing a second DVD called "A Sound Decision Too," about teens who chose to wait or not be implanted.

While adolescent candidates certainly appreciate these presentations, the DVDs also have been helpful for their peers and schools. Contact with peers who are similar in style and interests should be encouraged through personal visits and email. When adolescents do not communicate with others, do not truly understand the facts, show increased frustration or anxiety, or waiver about their decision, they may not be ready for an implant. Further support about specific issues in their lives, such as fear of surgery, concern about losing focus on their education, or anxiety about whether the timing is right, increases the potential for a positive outcome.

Surgery. Similar to young schoolchildren, surgery preparation for adolescents involves careful education, predictable schedules, choices (when possible), and listening for

their needs. In contrast to younger children, teens want more facts and tend to be more open to asking questions directly of professionals or peers. Their surgical concerns also differ, with age-appropriate emphasis on practical issues such as haircuts and time missed from school. They have serious surgical questions, with the most frequent one being, *What if I wake up in the middle of the procedure?* An explanation of the role of the anesthesiologist is essential and reassuring.

SIBLINGS

There is so much attention on the patient in the CI process, but we should never forget the important needs of the siblings. It is essential that they have an age-appropriate understanding of the implant and the surgery and that their fears are addressed. Talking to other siblings, as well as the hospital team, can be reassuring. Giving the siblings a special job, such as greeting visitors after the surgery or choosing videos for their brother or sister, also can be helpful.

The family clearly plays the most critical role in supporting the decision-making process and surgery preparation for children of all ages. The clinic team must be available consistently to support them. A good collaboration among the clinic professionals, school programs, parents, and children will ensure the most comfortable experience as the child moves toward the joy of hearing with a cochlear implant. **sw**

Author's Note: I am thankful to the families at our center for sharing their ideas and experiences, many of which contributed to the strategies described in this article.

I would also like to acknowledge the contributions of my colleagues Terrell Clark, Margaret Kenna, Marilyn Neault, and the members of the Cochlear Implant Program at Children's Hospital Boston.

UPCOMING EVENTS

Introduction to Cochlear Implants and the Harmony™ HiResolution® Bionic Ear System

2007 Introductory Clinician Training Workshops
Valencia, California

June 12–14 • October 23–25

For more details, visit www.BionicEar.com
or email auditoryeducaton@advancedbionics.com.

11th International Conference on Cochlear Implants in Children

Hosted by the University
of North Carolina at Chapel Hill
April 11–14, 2007
Charlotte, North Carolina

American Academy of Audiology

AudiologyNOW! 2007
April 18–21, 2007
Denver, Colorado
Colorado Convention Center

TIPS FROM THE TRENCHES

LESS IS MORE PROGRAMMING

Jolie Fainberg, MA

Children's Healthcare of Atlanta

People often say less is more. But can we apply this strategy to cochlear implant programming? When a child comes in for programming, I ask the parent if they, or a teacher or therapist, have noticed any problems with the child's hearing. If there is a specific problem, I address it in the new program(s). If all is well, I either make very small changes or leave well enough alone! We should not feel obligated to make program changes when none may be needed. Even though it is tempting to turn up the M levels each time a child comes in for programming, those adjustments can cause distortion and have a detrimental effect on the child's hearing.

In making programming changes, here are a few simple and effective tips.

- **Make one change at a time.** The beauty of multiple programming slots is that we can provide different maps for patients to try. Each program can vary different parameters, so you can assess what does and does not work.
- **Use objective measures.** NRI and ESRT can be helpful in setting appropriate M levels so distortion is not an issue.

- **Give it time.** When you change a program, especially if the changes are large, it often takes a few days or even a week to see the benefits. The child may not even like the program at first, but I encourage them to try it for a few days before deciding. I do leave the older map in the third program slot, just in case.

- **Test the program.** When I have the child in live voice with the new program, I do a few simple hearing checks. For example, I use the Ling sounds, numbers one through five, or colors, for younger children. For older kids, I ask a few simple questions. I always obtain an audiogram.

In some cases, programming requires a lot of time and effort to optimize the fitting. Other times, however, making small changes or making no changes at all is the best course of action. The most important part of creating a good program is communication with the child's parents, teacher, and auditory therapist to assess the child's progress to maximize his/her success with the cochlear implant. [SW](#)

HORMONAL CHANGES: IMPACT ON PROGRAMMING TEENS

Barb Friedman, MA

Fairview Medical Center at the University of Minnesota

While working as a clinician for many years, I noticed consistent behavioral changes in my pre-teen patients. I asked myself, *Something is different, why?*

Several years ago, I started to observe that the speech of many children with cochlear implants starts to get sloppy around age 13. Is it because they quit speech and language therapy? Is it because of their programs? Or, as most parents assume, are the kids just "lazy?"

In the last few years, I've noted yet another trend. The speech perception skills of a few adolescents I had been following for several years started to diminish or fluctuate. Was it the equipment, the programming, boredom at being at the clinic, or laziness?

So now I really had a question: *Why did I see frequent changes in speech perception and production at adolescence?*

I had heard clinicians talking many times about how hormonal changes with pregnancy and menopause caused programming changes, but I could not find any published

articles about it. It seems that this hormonal effect is something everyone knows and talks about, but no one documents. Is it the same for adolescence, when we know hormones are raging? Perhaps it is—ask any parent of a 14-year-old!

It's easy to blame hormones for all the wrongs or problems of teenagers, and, in some cases, one might be correct. But what should a clinician do if a change in speech is noted? Since there are no published solutions, perhaps teens should be encouraged to sleep throughout adolescence, like Rumpelstiltskin.

Seriously though, we need practical suggestions, such as:

- 1) The program and equipment should be checked. The headpiece should sound clear, and the child should be able to repeat the Ling sounds from a distance, with appropriate soundfield results; and
- 2) Impedances should be checked, and the device reprogrammed, if necessary. If results are stable, but performance is diminished, an

integrity test is indicated to be sure nothing has been overlooked.

If speech production is the problem, it might help to reinstate speech therapy. If so, try to find a therapist who has experience with teens; the therapy needs to be engaging to get them to go. Parents and teenagers continue to need support, so find the strengths and solutions for each child. Reinvestigating an FM or soundfield system may prove helpful, too.

Finally, I have a handful of kids whose speech perception and production restabilized after age 15. So what caused the temporary decrease in performance?

This brings me to my last question: *Does speech production and perception diminish during adolescence and is this a result of hormonal changes? Any answers?*

If you would like to share your thoughts or clinical experiences on this topic, please email the *SoundWaves* editors at auditoryeducation@advancedbionics.com. [SW](#)

PRODUCT UPDATES

THE HARMONY™ HiRESOLUTION® BIONIC EAR SYSTEM

In late 2006, the first shipments of the Harmony System were sent to a small group of centers as part of a phased market release. Approximately 100 patients were fitted with the new system, and many reported an immediate improvement in sound clarity at the time of their fitting. The average programming time reported by clinicians is typically less than 30 minutes. As the inventory build is complete, the phased market release will be expanded to a full launch in 2007. Your Clinical Specialist will contact you to let you know when the product will be available at your center. *sw*



HARMONY
© HiResolution Bionic Ear System

THE HARMONY CCK

We have developed a variety of new tools and materials to assist you in counseling patients on the new Harmony System. Included in these new tools is the Harmony Candidate Counseling Kit (CCK). After conducting extensive research, we considered the input provided by many clinicians and designed the Harmony CCK to allow for diverse counseling styles and preferences. Our goal was to exhibit lifestyle benefits and cosmetic appeal for patients through the combination of graphic cards and actual products, as well as to allow the clinician to control the manner in which the products are presented during the counseling process. We believe you will find the new layout and graphical elements complementary to your counseling style for presenting the Harmony HiResolution Bionic Ear System to your patients. The Harmony CCK Carrying Bag also is available for your added convenience. *sw*



HARMONY PRESENTATION PAD AND MIRROR

We understand how important it is for patients considering a cochlear implant system to handle the products and actually try them on during the counseling process. That is why we developed the Harmony Presentation Pad and Mirror. The Presentation Pad allows patients to feel more at ease when handling the Harmony BTE and accessories. The Presentation Mirror is a convenient, stand-up mirror so patients can see how the accessories look on their ears. Both fit inside the carrying bag for the Harmony CCK. *sw*



HARMONY LAUNCH KIT

The Harmony Launch Kit is a collection of all the new collateral and reference materials for clinicians. It includes a welcome letter, product technical specification sheets, product catalog, Professional Series brochures, white papers, press releases, patient reference materials, HiRes Fidelity 120™* sound simulations (CD), and much more. Simply contact your Clinical Specialist if you have not already received your copy!

We believe the Harmony System represents the next generation of cochlear implant technology by bringing together unprecedented advancements in science, design, and functionality for recipients. We look forward to sharing this exciting product with you and your patients. *sw*



*In the United States, an optional feature for adults only. See package insert for details.

BIONIC HIGHLIGHTS

FOCUS ON UNIVERSITY OF ROME LA SAPIENZA COCHLEAR IMPLANT PROGRAM

Deborah Vickers, PhD, Advanced Bionics
Sergio Panizza, VEGA SpA

Professor Roberto Filipo and the Cochlear Implant Team at the University of Rome La Sapienza have been implanting Advanced Bionics devices since March 1993. They now have more than 230 cochlear implant recipients (160 of them children), the majority of whom use the HiResolution® Bionic Ear System. The preference for the HiResolution System is based on performance outcomes and system flexibility.

Professor Filipo's team has a keen interest in research and has published over 60 peer-reviewed articles. Their primary areas of interest are:

1. Special populations (e.g., deaf-blind adults, very young children, adolescents, people with Meniere's disease)
2. Improving outcomes (e.g., bilateral implantation, strategy selection, and surgical approach)
3. Objective measures
4. Intraoperative imaging techniques

Advanced Bionics has always looked to Professor Filipo's team for objective evaluation of strategies, new implants, and surgical insight into the use of our technology. In addition to Professor Filipo, key members of the team include Dr. Ersilia Bosco, Dr. Deborah Ballantyne, and Dr. Patrizia Mancini. With such large populations of subjects and a wealth of experience, this group is well positioned to evaluate new concepts and developments. For example, a recent study has been following the speech and language acquisition of children using the HiRes® strategy for over three years. The results have highlighted the faster development of young children using HiRes compared to children using earlier strategies. Professor Filipo's team is also currently evaluating the HiRes Fidelity 120™* strategy option with both adults and children, and Professor Filipo is the principle investigator for a European study exploring the use of bilateral implants in young children. [sw](#)

*In the United States, an optional feature for adults only. See package insert for details.

WE WELCOME THE FOLLOWING COCHLEAR IMPLANT CENTERS TO THE ADVANCED BIONICS FAMILY:

**Toledo ENT &
Audiology**
Toledo, Ohio
Aaron Benson, MD
Julie Yeater, AuD

**Lawrence and
Memorial Hospital,**
Old Saybrook,
Connecticut
Martha Jove-D'Amato, MA

University of Cincinnati, Cincinnati, Ohio
Ravi Samy, MD; Daniel Choo, MD;
Lisa Houston, MA; Susan Martin, MS

FOCUS ON HOUSTON EAR RESEARCH FOUNDATION

Houston Ear Research Foundation (HERF) was incorporated in 1983 as a nonprofit organization for the purpose of providing comprehensive cochlear implant services for both children and adults.

The Foundation is led by Chairman of the Board and primary surgeon G. Walter McReynolds, MD; Executive Director Jan Gilden, AuD; and Board Member and CI surgeon Mark Nichols, MD. The Foundation maintains its excellence in the field with the work of audiologists Mary Lynn McDonald and Sherri Taxman. The audiology staff at the Foundation has 56 cumulative years of cochlear implant experience—one reason for our success!

A unique relationship has been established between Houston Ear Research Foundation and Houston Ear, Nose and Throat Clinic (Houston ENT), a private practice. Houston ENT audiologists run the largest Universal Newborn Hearing Screening program in the state of Texas. Once identified with hearing loss, infants are referred to the Foundation, where they are fitted with loaner hearing aids and begin a program of aural rehabilitation to maximize hearing. The families are counseled regarding options, including cochlear implants. The families also can observe children who have had their cochlear implants for long periods of time and are mainstreamed in a hearing world.

Adults who are potential cochlear implant recipients come to the Foundation for extensive candidacy testing and counseling. They have the opportunity to meet and visit with other cochlear implant recipients who have similar etiologies and hearing backgrounds.

The Foundation offers patients a unique approach to cochlear implants by providing expert care with an exclusive focus on cochlear implants, along with a compassion for the whole individual. The Houston Ear Research Foundation is proud to offer a comprehensive cochlear implant program that includes pre- and postimplant evaluations and all programming and maintenance services. [sw](#)

TECHNOLOGY CORNER

DETERMINING POWER NEEDS WITH HARMONY™ SYSTEM RECIPIENTS

When programming the Harmony™ System or using the HiRes Fidelity 120™ feature, you can continue to enjoy the proven effectiveness of PoEM (Power Estimator). PoEM proactively manages the RF needs of the system and was introduced with the initial version of SoundWave™ Programming Software in 2003. Rather than setting a specific manual RF setting (0-15) that is constant, PoEM automatically sets the RF to whatever power is needed for the patient's particular M-levels—higher power in noisier environments and lower power in quiet environments. This increased power efficiency results in more

CLINICAL RESULTS FOR THE HiRes FIDELITY 120™* FEATURE

In 2003, Advanced Bionics introduced HiResolution® (HiRes) Sound Processing, a family of strategies that doubled the number of spectral bands and increased temporal rates tenfold over conventional sound processing strategies. The flexibility of the HiRes electronics platform (CII Bionic Ear® and HiRes 90K® implants) allows for the continued evolution of HiResolution Sound. The HiRes Fidelity 120 option (Fidelity 120) is designed to build on the strengths of standard HiRes by creating electrical stimulation patterns that more faithfully represent the frequency spectrum of the acoustic input signal. Fidelity 120 is intended to allow implant recipients to take advantage of their residual place-pitch perception capabilities by delivering spectral information in higher resolution compared to conventional processing. The increased spectral resolution, in combination with the fine temporal resolution already implemented in HiRes, may lead to better speech perception in noise and improved music appreciation.

An ongoing clinical study is documenting the listening benefits of Fidelity 120 Sound Processing in adult CII and HiRes 90K recipients. Performance with standard HiRes is assessed at a baseline visit and compared with Fidelity 120 performance after 3 months of listening experience. Subsequently, subjects are refit and retested with standard HiRes. Outcome measures include speech perception in quiet and noise, music and sound quality ratings, self-reported benefits, and a preference questionnaire.

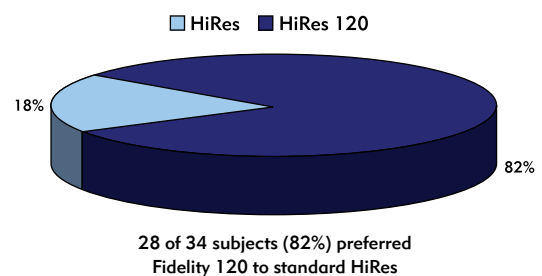
For 34 subjects who have reached the 3-month test interval, mean scores HINT sentences in quiet and in noise were significantly higher for Fidelity 120 compared to baseline with HiRes and to scores after subjects were refit with HiRes. Ratings of clarity of voices and environmental sounds were significantly higher for Fidelity 120 compared to baseline with HiRes. Moreover, mean ratings for pleasantness and distinctness of music, as well as mean ratings for frequency of listening to music and

satisfaction with listening to music, were higher with Fidelity 120 than with standard HiRes.

Subjects also rate the sound clarity and ease of listening in everyday situations using a 5-point scale, with 5 being best (clearest or easiest). After three months of Fidelity 120 use, subjects rated their experience as “clear” or “very clear” for all but one listening situation (at home). Similarly, a greater proportion of subjects rated their experience as “easy” or “very easy” for all situations after using Fidelity 120.

Twenty-eight of 34 subjects (82%) reported a preference for the Fidelity 120 over standard HiRes (see figure). Subjects also rated strength of preference for the two strategies on a scale from 1 (weak preference) to 10 (strong preference). The mean strength of preference for the 28 subjects who preferred Fidelity 120 was 8.3. For the six subjects who preferred standard HiRes, the mean strength of preference was 5.2.

These results demonstrate that Fidelity 120 is a viable sound-processing option that may offer additional hearing advantages for some CII and HiRes 90K recipients. The reported benefits extend beyond improved speech perception and may include better everyday sound quality and music appreciation. [sw](#)



*In the United States, an optional feature for adults only. See package insert for details.

stable lock, despite listening environments, skin flap thickness, or external equipment changes. In some cases, it also results in improved battery life. Recall that PoEM is program specific, and this default parameter is available in the “Option” screen of an open, active program. The vast majority of patients programmed in SoundWave are able to use PoEM, and this holds true for Harmony recipients as well; almost all will be able to take advantage of PoEM.

In addition to PoEM, the Harmony also has the added feature of Power Economy Mode. Like PoEM, Power Economy Mode is a default setting in SoundWave that goes

above and beyond PoEM in the improvements of battery life. By restricting the power capabilities of the Harmony and instead using a standard power scale that works for most CII Bionic Ear® and HiRes 90K® recipients, Power Economy Mode significantly conserves the drain on the battery and results in several additional hours of battery life. The Power Economy Mode feature is processor specific, and this default option may be disabled in the “Initialize Processor” screen.

In a few instances, you may need to disable Power Economy Mode or change from PoEM to a manual RF setting.

Generally speaking, if lock is difficult to maintain at initial stimulation due to skin flap thickness or swelling, then Power Economy Mode should be disabled for the first few weeks of use. With Power Economy Mode off, the power scale is widened to allow more output for those patients with higher power requirements. If lock is still not maintained with Power Economy Mode disabled, then try to set the PoEM target to “High” or set a manual RF setting. In other instances, you may wish to deactivate PoEM and try a manual RF setting prior to disabling Power Economy Mode, such as with a sound quality complaint. [sw](#)

e-LEARNING OPPORTUNITIES FOR CLINICIANS—CEUs AVAILABLE!

Extreme Makeover: Cochlear Implant Edition Webinar Series

January 16–March 6, 2007*

Course Description: It's time for a Makeover! These Webinars will modernize and rebuild your approach to, and knowledge of, cochlear implants. This series consists of eight episodes covering a variety of topics, featuring speakers from across the country who are all experienced leaders in the field of early identification and intervention of hearing loss. Each episode will provide practical suggestions and tips on how to improve therapy strategies for today's cochlear implant recipients.

Target Audience: Educators, Auditory-Verbal Therapists, Audiologists, Speech-Language Pathologists, Early Intervention Specialists, and Parents. Registration is FREE, and CEUs are available for each episode! For those who cannot attend a live episode, each episode will be recorded for later viewing. [SW](#)

*Series meets every Tuesday at 12 PM and 8 PM EST, and each episode is 1 hour.

Therapy GuidePosts Webinar Series

March 15–October 18, 2007*

Course Description: The cochlear implant journey begins from the moment a hearing loss is identified and a decision is made to receive a cochlear implant. Whether it is a young child or an adult, there will be a series of GuidePosts that are needed to maximize the recipient's success with the cochlear implant. This series will provide the participant with necessary GuidePosts to create a (re)habilitation plan that meets the unique needs of cochlear implant recipients so they can augment their performance outcomes.

Target Audience: Educators, Auditory-Verbal Therapists, Audiologists, Speech-Language Pathologists, Early Intervention Specialists, and Parents. Registration is FREE, and CEUs are available for each session! For those who cannot attend a live session, each class will be recorded for later viewing. [SW](#)

*The second and fourth Thursday of each month at 12 PM and 8 PM EST.

Listening for Littles All Day Long Webinar Series

March 20, May 22, September 25, and December 18, 2007*

Course Description: These one-hour Webinars detail innovative ways to develop fundamental listening and language skills in children outside of your therapy session.

Target Audience: Educators, Audiologists, Speech-Language Pathologists, Early Intervention Specialists, Auditory-Verbal Therapists, and Parents. Registration is FREE, and CEUs are available for each session! For those who cannot attend a live session, each class will be recorded for later viewing. [SW](#)

*Each course is offered at 12 PM and 8 PM EST and lasts for 1 hour.

For more information, visit:

www.BionicEar.com/Onlinetrainingevents.

e-LEARNING OPPORTUNITIES FOR YOUR PATIENTS

In addition to the rehab course mentioned above, Advanced Bionics offers a new monthly Webinar Series designed for candidates and cochlear implant recipients.

Tune In to Ask the Expert

Date/Time: Second Wednesday of each month at 12 PM EST.

Description: A live, monthly, Internet-based interactive information seminar (Webinar) that offers cochlear implant candidates and recipients an opportunity to connect with others who are on the hearing journey to learning, choosing, getting, and living with cochlear implants. [SW](#)

CORRECTION

In our previous issue, the FireFly® was incorrectly listed as an earhook option for the Harmony BTE. The FireFly is not compatible with the new Harmony BTE because of the built-in LED feature. We apologize for the error. [SW](#)

MAILBAG

We welcome your comments on *SoundWaves* articles, as well as on other topics important to you. Please send your remarks to taras@advancedbionics.com. We may publish part or all of any correspondence and reserve the right to edit letters for length, clarity, and style. Please include your name, cochlear implant center, and contact information. [SW](#)