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>> Donna: We are offering captioning, and you can click on that right now to get your link to the captioning. And with that we are ready to begin. Our talk today is Achieving the Best Outcomes with a Cochlear Implant: 20 Top Tips with myself, Donna Sorkin, from Cochlear Americas HOPE program, and my partner today is Ashley Garber who is a certified auditory-verbal therapist and a speech therapist and a regular presenter with us here at Cochlear. Our event was sold out in terms of seats, so we're pleased everyone could make it. I want to note we will be making reference to our on-line learning modules, resource on particular topics, and that will be posted very soon in the HOPE area of the web site. We have taken all of our archived courses and taken 60 of those and put them into learning

modules to make it easier for you to access at our archived resource, so take advantage of those recorded archived courses, and I think they will really help new terms of maximizing your learning and also going a bit further with our course today.

So our topic today is really based on issues that Ashley and I have heard about over the years. Oh, I forgot to introduce our presenters. That's me on the top right side. I'm an advocate for parents and adults with hearing loss, and I have the great pleasure of directing copy cochlear's HOPE program which is the effort to provide rehabilitation outreach and educational support for adults, for parents and for professionals who work with both of those groups.

Ashley is a private practitioner specializing in auditory verbal therapy with over 12 years of experience in working with children and adults with hearing loss. So these are the four topics we're going to talk about today.

Maximizing use of the sound processor, empowering parents to promote auditory learning, addressing the needs of children in school settings and involving friends and families to aid in the child's social development, and we have organized our 20 tips along those four topics, and we're going to begin with maximizing the use of the sound processor.

Ashley and I will go back and forth, and I'm going to begin with this particular topic. So the first tip is to collaborate with your child's mapping audiologist, and for parents we really want to encourage you to provide regular input regarding what your child is consistently hearing or not hearing. Keep in mind that you see your child more than anyone else, and you're mapping audiologist may be the expert, but he or she will do a much better job of mapping your child if they get input from you about what's happening throughout the child's day and different kinds of environments, and that will help them provide a better map.

Also educators, very important for you to let parents or the CI audiologist know what sound or words the child is missing. What types of things they're having difficulty with. Does the child, for example, respond well to sounds many in his or her environment, and can they consistently hear the six ling sounds. That's important for both the parents and the educators to know about and let the clinic audiologist know about. And likewise, it is really important for the CI audiologist to explain any mapping changes that they have made that are significant and to solicit input from parents and from educational professionals about any changes they may see in the child as the result of that.

Speaking from personal experience, I know when I'm going to get remapped. I really want to know from my audiologist what she's done that's different, and she in turn is -- gets right back at me if I don't tell her how the map has made a difference and whether I like this or that that she's changed, and if I can hear something better or not.

So that kind of 2 way discussion is very important for children and adults, really important for anyone of any age. Some information that's nice to share with the cochlear implant audiologist would include what program the child uses most often and has this changed over time? If there's particular settings that he or she uses and are there times when you think a child might need a bit more volume and conversely are there times when a program seems too loud for the child?

It is also nice to keep track of what other programs, mapping programs the child might be using, and if so, how often they use these, and in what particular situations they use them. You also might just think about if the child is not using any other programs except for the one that they tend to use, you might just see if there are opportunities to take advantage of some of the power of the sound processor in different kinds of listening environments.

As we're going to do throughout the session today, we have given you resources on mapping. If you want to follow-up on this particular topic, we have a very nice on-line course that's called audiologists and therapists or teachers working together, and that was given by two professionals at the Moog Center for Deaf Education in St. Louis. Betsy Brooks -- Betsy Moog Brooks shows the way they work together to maximize that two-way communication.

They also use a team tracking format the Moog Center that I highly recommend. They sell this in the form of a pad, and on one side it has information for the audiologist to provide about what's happened during the mapping session. On the other side there's an opportunity for the educator or therapist to provide information on what they're seeing in the child. We have two nice HOPE on-line courses that you might want to take a look at. There's one called partnering with your cochlear implant audiologist, how to get the best map possible for your child. And that was given by Terry Zwolan. Very understandable on the mapping process, and the next one is how to read a child's map, and that's given by two audiologists from Cochlear. A nice basic course on what the map is about.

Someone is asking at the bottom where can we find the resources on mapping? These are all on the -- in the HOPE area of the Cochlear Americas web site in the archived area, so all of these courses that I'm mentioning are courses we've previously given, recorded in the HOPE archive in the area of the web site, so take a look at those throughout.

Make full use of sound processor options. Depending on the age of the child and ability to determine benefit, you might want to explore the use of the SmartSound options and the freedom sound processor. Typical what we see children experiencing and what ADRO is doing it is making automatic adjustments as the sound environment changes. It does that by dividing the sound spectrum into 22 channels and adjusts the gain of each channel independently.

So it is maximizing the sounds the recipients want to hear and softening the unwanted noise, and there's more discussion of that in some of the recommends courses I talked about. Here an example when ADRO might be particularly helpful. In the picture on the left side you could see there's a lot of things going on. There's an airplane up in the sky and a Ferris wheel.

Some other noise in that environment. And the mom or adult there with the cochlear implant is having a nice talk with the little girl that she's holding.

In the right side do you see that the plane and the Ferris wheel has been muted a bit? It is not completely gone, but it is muted, and that's exactly what ADRO is going to do. It is going to mute those sounds so that they're still there, but they're softer and that discussion between the two people in the picture can go on very nicely. One of the my very favorite places to use ADRO is at the seashore, and I was at the beach last weekend, and walking along the shore I'm talking to my husband. I want to hear the ocean, but I don't want to drown out what he's saying. So I can switch into ADRO, and it just mutes the ADRO. It is there, and I have the nice background from the water and the sounds I associate with being at the beach, but I can still hear him. So that's a nice option to look at for your child.

So here are two resources. One is the HOPE on-line session on FM and nucleus freedom which includes a explanation of ADRO and another is look on the cochlear implant's web site and there's also of technology and find a lot on SmartSound.

the third type is to determine the best telephone options.

And among the things you want to think about is whether to use the telecoil or not to use the telecoil, and I can tell you personally I really like the telecoil. I think I hear better with it on the phone. I don't use it every single time. If I'm going to take a quick call and it is someone I know I can hear fine and don't want to turn it on, I might not turn it on. If there's any noise in the environment or I'm going to have a long haul very likely I will turn the T coil on. The other thing to think about is the telephone setting on the telephone instrument and on the sound processor. You might want to make sure you have got a bit of boost on your telephone because very often those of using cochlear implant want to put the phone volume up a little bit. Sometimes if I'm going to be on a conference call with a lot of people on the line, may turn the volume up a little bit on my sound processor. So you can do it in both places.

The other thing is to help the child determine the best place to hold the headset because it is -- you know, it is going to be a little bit different depending on the telephone and where you hold the headset if you don't use hearing technology. Mixing level. Our cochlear implant is set in T coil so it is going to in the default setting give you 100% of the sound in the T coil and nothing through the microphone, so what does that mean? What that means is you can't hear your voice.

Some people like that. They like getting all that sound through the T coil. Personally I like to hear myself talk, and I don't like 100% through the T coil, so I have mine set the way I usually have it set is 60/40, so getting 60% of the sound through the T coil and 40% through my microphone.

I have another T coil setting that's on a different map that's for very noisy environments. If I'm trying to make a call in an airport, I'll use that one, and that one is set 75/25, so I get more boost in the T coil than I do in the microphone by a bit more. Some people like to use the speaker phone, so that's an option. And the other thing to think about is whether the child has a phone preference. It is important to know that different phones sound different to those of us using hearing technology.

I have my favorite phones. I'm with my freedom I can use just about any telephone, but I do have preferences, so identify which telephone works best for the child. Include a mobile phone. My cell phone actually is one of my favorite phones. And then think about how you're going to use the phone in combination with the above options that I talked about.

There's a nice resource on the Cochlear Americas' web site called using the telephone, and I have given you the link, so you might want to look at that. And my fourth tip on this topic relates to gaining confidence in using the telephone, and we have a new product at Cochlear called phone with confidence and it helps someone use the telephone in a safe and comfortable way, and allows recipients mastery of using the phone before calling others, and it is nice for a newly implanted teenager and anyone getting a second implant or adults, and the purpose is to help you develop listening skills, and develop confidence and one's ability to make calls.

Here is a bit more information about it. It is service coming from Cochlear. It will be in the Cochlear Americas' web site. It will be coming in September. You will be calling into a free 1-800 number that allows you to listen to a word list. Most recently it was a reading by Graham Clark that developed the first cochlear implant, so listen first without the text and listen again with the text in front of you that you can pull off of the web site, and it is free, and you can call back as many times as you wish.

the guy that actually developed this is a bilateral cochlear implant user, Scott Reinhart, and it is something he wished he had when he was learning to use the phone.

I have given you the web site where it is going to be in the cochlear community, so you can check it out as soon as it is ready. And -- huh, did I skip something? Yes, I did. Practice proactive maintenance. My fifth tip. Very important to perform detail equipment checks at home and at school. Look for breakage and loose connections. Know how to troubleshoot the sound processor, and that applies to both parents and the school personnel. There should be one person in charge at school of troubleshooting, and that's important because if the child goes down, the child will be desperate to have sound again, and I don't want to at this point to learn how to do this, so one person should learn how to do it. We should have replacement parts on hand at school, not just batteries, but also have other parts that can keep a child on the air.

I really strongly recommend buying the troubleshooting kit to follow the child through the school years, and that's something you can ask for under the child's IEP. I will show you a picture of that in just a second. Parents use the dry and store detail and change the bricks when they get old. You can tell that from the color that they're at. There's a screen that tells you when to change, and that, of course, is especially important right now during humid summer months.

So a bit more on resources and troubleshooting. We do have an on-line HOPE seminar called troubleshooting the nucleus cochlear implant system. There's a guide that's up there, and I've given you the link for that. The troubleshooting kit looks just like that little black zipper bag that's on your screen, and that's just showing you the different parts that go in there, and it comes with a little troubleshooting guide. That's on the right side on the top, and you can also just download that from the web site if you want right now. And the educator guide, which is on the web site also has a chapter on troubleshooting.

So with that I'm going to turn the floor over to Ashley.
>> Ashley: Thanks, Donna. I would like to change gears just a little bit now and share with you the next set of tips that we have for you all related to empowering parents to promote auditory learning. I do understand from our organizers today that we very likely have a nice number of parents attending today's session, so I'll try and address these comments to both the professionals that are typically in our audience as well as the parents that are with us today.

the first tip in this area, tip number six overall, is to create theme lessons. As therapists and teachers, I think we probably all are used to the idea of organizing activities around a particular concept or a theme, and that's something that might help parents to internalize the goals to a greater extent because the materials and the vocabulary we use remain constant throughout our session or throughout the week of a -- a school week where all the activities are based on a weather theme or holiday theme, something like that.

Typically a book or holiday are for the jumping off points we might use for that. A particular story, something along that lines, but what I will suggest to you is consider using strategy themes as well. And I think this could work for you whether you're working one-on-one, in a therapy session or if you are in a classroom, but where many or all of your activities are actually focused on a particular auditory strategy.

for example, the strategy of using more acoustic highlighting in your speech. So if -- again, if you are a individual, therapist working individually with a child and their family, a whole session would be devoted to concentrating on using your voice with increased acoustic highlighting, more pauses, emphasis on particular sounds and words. All the aspects of acoustic highlighting so that whether you're doing a Play-Doh activity or a story book or a cutting activity or any number of things, the focus for the parent that you're working with is to use acoustic highlighting throughout.

Again in the classroom this might just be with the notes that you send home to the family each week where you're focusing on that aspect of the lesson versus something else so the parents -- that's the take home message for the parents throughout the week or the lesson.

If you are a parent, this is something you can ask for your therapist to do. If you know, for example, providing auditory information first without giving a visual cue or a visual model, if that's something that you feel you need work on or struggle with you can ask your therapist, let's do all of your activities today auditorially so you can help me improve that goal. This is something Pam suggested to me in her mentorship, and it is something I think really can be expanded to lots of professionals.
So that's an idea for you to consider.

Planning your activities or lessons. Tip number seven is to turn the activity over, and this might be, of course, most appropriate to those of us working individually with students. You know, for parents to internalize the skills that you're sharing with them, that you're modeling for them, they need their own opportunity to practice, of course, so the suggestion here is once the activity has been modeled and the strategies and the goals you have have been described, allow the parent to do the activity with the child.

Now, for all of us in I think the therapy profession it is hard to do to avoid that temptation to jump in before their turn is done and to sort of fix it for the parent or to do it the way we want to do it, but if improvements are needed, perhaps take another turn and describe the techniques again rather than jumping into a parent's turn. And Beth Walker kind this phrase in another workshop I did in my auditory verbal practice is push and turn if you have to. In other words, push your way from the table and distance yourself from the activity so a parent has a real opportunity to work with the model that you have given them and the strategies that you have shared to practice themselves and really feel for themselves what they are going to do with the language goals or the auditory goals that you have given for their child in that particular activity.

So that's a nice tip to really work toward empowering parents to be using these strategies for themselves rather than just see them happening in therapy. Tip number eight. Encourage note taking during your sessions. And again, if you are a parent that you have come today for some tips, this is one that you can institute for yourself to begin to take some notes during your therapy session, and that is -- again from the professional standpoint giving an opportunity for the parent or care giver to write down the session targets or the strategies that worked. You may have to plan some filler activities to occupy the child so that the parent has a good chance to do this.

and very important if you are the parents, don't let the therapist write it for you in their style. You write down what is important to you and what you feel is the take away message from the activity. It is a good idea to really individualize this process and determine what works best for each family. For some families it might be a chart that they fill in with the game that was played. That might be the key to help them remember what strategies or goals that you target is really what toy you started with. Maybe it is a chart in that -- with that sort of organization. Maybe it is a white board that they take and put up in their kitchen so they can remember the activities or the goals that they're to be working on during the week so they can -- they bring it to session and they write everything down and put it in their kitchen and keep it in their center of operations, if you will.

Maybe index cards that they pass out to other family members when they get home. Maybe photographs and symbols depending -- you know, we all have a variety of clients and families that we work with now that perhaps have less English or less reading skills, so determining really what works well is the way that each family will get the most from this experience.

Now, if you are a clinician or a therapist that's working outside of that session where you're right there with the family, this is something that might be done in a completely different way where you're doing it in a home, and it may take trial and error but finding the best way to work with them would be the most advantageous. Follow-up with some discussion so you can see what's been absorbed through your session.

Taking that time to review the activities you did each session will give you that opportunity to gauge the family member's comfort level. Encourage the parent to verbalize what they learned during the lesson. Maybe asking them how they would share the lesson with their spouse is a good way to have them -- or the person who is not present to have them take a chance at verbalizing what it is that they learned during the session.

and in listening to that description you will be able to perhaps know better which areas that you can teach better or teach again that, you know, it didn't quite get through the first time or you didn't do a good job of explaining or modeling for the parent in that initial try and that you know you need to revisit that another time.

Jay had asked a question -- I'm not sure exactly when the question came in, but I think it is applicable here, but what are strategies to use with teenagers. You know, once a child gets to a certain age and they become the one that is more responsible for their own therapy outcomes, this is something that you could do with the child himself to ask, okay, so from everything we talked about today, all the games that we played or the reading that we did, what are you going to do when you're at home this week? What will you practice? What can you do for yourself? Who will you ask to practice with you?

You know, discussing with them and having them tell you what they took away from the session is a good way to sort of gauge for yourself how much of the take home message you intended is actually going on with them.

Number ten is to guide homework plans, and I put emphasis on the word guide there rather than giving homework plans, guiding homework plans. For the most carryover we know, parents, caregivers have to incorporate targets into detail -- daily life after the session. We would do it for ourselves and moment environment is the best way to approach a particular target, and we give them a list of things to do at home, then we really risked jeopardizing the learning process because we may be overestimating the understanding that the -- a person takes away from the session, and we might be misunderstanding their daily life. All of us have different requirements and pulls in our life, have different situations at home, and so instead of dictating to a parent what a homework activity would be or dictating to a student what a homework activity would be, leading them to come up with their ideas with activities with guided questions and probes might be more effective so they can consider for themselves what will work for them.

So just by way of example I have a few questions and probes here for you. So perhaps you could ask, for example, do you guys play outside together? Is that something that you like to do? And provided that they say yes, you can follow with then let's think of a game to play that uses directions, and so that's enabling you to get a little bit toward what the family does in their daily life that can be applied to the directions goal that you set for them. And if they say no, we don't like to go outside, we -- we're not outdoor people, we tend to --

we go to movies on our time off or what we do, then you can shift to something else to achieve the goal that you want.

Another example with our snack activity today we worked on using ing verbs. Tell me something you do with Jessie at home everyday. Once they answer that question, what verbs can you use in that activity? I definitely found even asking, you know, what are some things that you do at home with action words, that's -- can be way to open-ended sometimes whereas if I say what are some things you do in the kitchen that involve actions? To really help the family focus in. Or what are things you do during dressing times, when you're dressing your child? That helps a family focus in and come up with some things verses feeling really put on the spot with where is she going, what is she expecting me to say?

Today we practice remembering three things. Tell me about a time in the morning that you go with Micah a list of things to get. What about the afternoon? Focus in time of day. Their morning might be quite different from yours, so by letting them -- you know, be open-ended so they can think of the things that are in their day. You have a better chance of family coming up with meaningful homework activities for themselves.

What I have done is listed resources just for this whole area. As Donna mentioned, we have organized our archive sessions into a series of learning modules, and if it is a particular area of study for you, you can go to the particular section and look at all the on-line sections that relate to auditory therapy, and three that I think are very pertinent to the discussion, auditory therapy for young children, parent and professional partnership, there's a second session called more ideas for preschoolers and ideas for elementary aged students and more ideas for elementary aged students, and these will give you ideas in ways to work with parents and work within the therapy model.

Also we have a new resource that is coming your way very soon. Do keep your eye on the HOPE area of the web site for HOPE tips for parents, and these have been designed specifically for parents, but they can be used as well by professionals that guide parents so that if you are a professional you can -- you can pull this from the web site and print it for your family, make a copy for members of a parent group or something like that on different activities. First set coming out is on literacy, and there are I think six different topics in that area, and then we have two other sets coming out following that as well.

Judy Simser has done lots and lots of work with the parent partnership in therapy, and this article is an excellent resource. "Parents, the essentially partners in the habilitation of the children with hearing loss." I would direct you to the link.

and with that I will send you back to Donna, and she will share addressing needs in the school setting.
>> Donna: Thanks so much, Ashley, and I will start with tip 11 here, preparing students and educational professionals. If your child with a cochlear implant is starting school in a new place next year, I hope you have already linked up with that school and met with your child's teacher, and if you haven't, you need to do that right away.

I think the worst thing we can do to a mainstream teacher is surprise them and not prepare them properly, and it is really important to go in early and get them ready, give them resources, let them know that there are other people who will be helping them and supporting them. And very important to assemble a team early on. Just different than your child with normal hearing and no other issues. We really have to have a group of people that are supporting that child and working with the parent and the child. The cochlear implant team and the team at school. Part of determining who will do what to support the child.

I mentioned before the issue of troubleshooting the processor and that's just one piece of it, but there's a whole on-line session on this teen idea and what needs to happen and the responsibility. So I don't have time to go through all that here, but take a look at it if it is a topic you want more on.

We also can't leave the students out of this, and it is important to acquaint the students in the child's classroom in a very positive and age appropriate manner. There's an on-line seminar that we did about the experiences of a parent and a teacher they copartnered on the on-line seminar, and it was about the -- the child's name was Jake and what they did to get ready for Jake in first grade.

In this case they actually had a youngish, probably mid to late 20s with a cochlear implant came into class and talked about what it was like and talked about the technology. Jake had a speaking part and talked a little bit about his processor we had stickers and coloring books and a plastic sound processor that the children could look at and handle, and one of the things that they talked about that I thought was really sweet and wonderful was that they taught the children that when Jake's battery was going to go out that they could see the light blinking.

So now the kids tap Jake on the shoulder, that his sound processor is going to need a new battery. So that's a really nice positive way, and obviously age appropriate for the kids in that classroom to get them involved in supporting Jake.

the other aspect of this is to encourage collaboration with the child's CI team, and nice way to do that is to actually attend a mapping session and watch what's going on during the mapping. That's also an opportunity to ask questions of the audiologist about the whole cochlear implant process and the child's needs relating to that. And the next piece to that is to help the student be the boss of her hearing loss. And whether that's a girl or a boy, obviously we want to help the student be in control because he or she is going to be more outgoing, more participatory, more like his or her peers if he feels he's controlling what's going on, rather than having it control him.

Lastly and probably most importantly is what we're doing here is setting a caring atmosphere at school. It makes everyone really want to help that child and difficult not to be positive and responsive about anything that's going to help the child's progress.

So some resources that I have on preparing the students and the educational professionals, we have several good on-line learning modules on this topic. I particularly like serving children at school and mainstreaming two of the modules. We put the web address up there for you, and I've had some questions along about what do we mean? And these are the archived HOPE courses, just like the one you're taking today offered by Cochlear Americas, and ones that we've given in the past and recorded, so you can go back and see by topic what you want to take a course on.

So three that we have there are assembling a supportive team, lessons from a first grade mainstream classroom. That was Jake's classroom that I talked about before. And one that I called children and cochlear implants and what they need at school.

Other resources is the Cochlear Americas educator guide which is designed for mainstream personnel which is on-line on the web site. You can download that. I also like the two resources from two schools. One is called "Questions teachers ask" And it was done for a teacher at Central Institute for the Deaf. And the 12 tip is assess and address the listening environment, and, of course, keep in mind that children with hearing loss need a higher signal to noise ratio, sometimes called SNR, than normally hearing children, and it needs to be at least 15 decibels. There are three components of an acoustical environment. One is reverberation, and that's just the way the sound bounces around in a room. If you have surfaces that are hard and no carpeting and no soft draperies and things on the wall to absorb the sound, the sound will bounce around more and be more harder for us to hear, and the speaker's voice. Right now you're listening to me, and hopefully it is a good comfortable volume. Sometimes teachers around using sound systems in classrooms, so their voices are softer, and then the third one is the ambient noise level in the room.

Classrooms are often noisy spaces, so those are the three things we think about. The signal to noise ratio is the difference between the teacher's voice or the speaker's voice and the ambient noise level in the room. So, for example, if the teacher's voice was being received at the student's ear at 65 decibels and the ambient noise level in the room was 40, then you would have a signal to noise ratio of 25. That's an amazing signal to noise ratio. I doubt you will ever have that, but that's just to give you an example of what we're talking about.

Other thing to keep in mind is acoustics and FM, you said FM are not either or. We should be looking at providing both in an appropriate manner to the student to ensure that they have the best possible listening environment. I mentioned before that classrooms are noisy and reverberant and children don't necessarily complain, and sometimes they may not know why they're having difficulty hearing and understanding what's going on in the classroom.

So we have to be vigilant and think about these issues for them and take care of them. So I believe all classrooms should be evaluated for acoustical improvements, and even if you can't get to the idea, we can improve any classroom and make it better than it is right now. If it is a poor listening environment.

So I mentioned before it is not either or for acoustics and FM. We have a lot of students now using classroom soundfield systems where we have speakers around the room and the teacher is wearing a microphone and it is bringing her or his voice level up for all the students in the classroom, but if that space is highly reverberant and there's a lot of sound bouncing around in the room, and you amplify the sound, you actually can make the listening environment worse, so you really do need to look at both.

You need to look at the acoustics in addition to thinking about an FM system for the child. The other thing to think about is children communicate in small groups informally when an FM is not necessarily in use, and those informal interactions that are occurring at school are an important element of the school educational experience. That's what's helping them -- a student develop social skills, know how to work with other children, so having good acoustics in that space when we're not using an FM, when we're in a more informal change mode is very, very important.

Then I just wanted to mention the ANSI standard S12 noise. This was a standard developed by a multi-disciplinary group that was concerned with acoustics in classrooms. It was developed several years ago. ANSI is a private standard body that developed standards for all kinds of things. Refrigerators and stoves, whatever, and they developed a standard for acoustics in classrooms, and it covers background noise and reverberation for classrooms of moderate size and core learning spaces and covers background noise but not reverberation in spaces like the hallways and the cafeteria and the gym.

Sometimes if we're retrofitting a space, existing school and trying to improve the acoustics, it may not be possible to get it to the standard, but you can use it for the basis for where you want to try to be. It should be something that we think about when we're building new schools for sure or renovating a school.

I have given you the on-line link, and it is free. You can download the standard on-line and take a look at it. So my third -- 13 tip is evaluate for FM following cochlear implantation. You want to make sure the child is old enough to give you that and has enough listening experience to provide you that. A child should be able to perform some type of listening task so that optimal performance can in fact be confirmed with use of FM.

Just a quick reminder, the purpose of an FM is to ensure that the speaker's voice is presented at a consistent decibel level. What we often find at school is if the child sitting in the front and is near the teacher as opposed to the middle or the back of the room, then obviously the teacher's voice is going to be louder, but the other thing that happens is teachers get tired when they have been talking for four or five hours a day, and typically a teacher's voice will be louder in the morning than it is in the afternoon. And then couple that with the fact that children get tired in the afternoon, so they -- you know, they're putting less effort into listening, and the teacher's voice goes down, but the family helps keep the voice up to a nice consistent level.

It overcomes the effective background noise in the classroom to some degree. It assists when there's competing conversations going on. Very typical in a classroom. It makes the voices of distant speakers accessible, and it helps improve listening in rooms with poor acoustics. And very, very important it reduces the listening effort.

We really want to try to help the child put their energy and their effort into learning rather than listening, and unless we have that sound presented at a comfortable level for the child, they're going to be putting a lot of their energy into that listening task.

So I want to just show you -- I'm going to show you a little graphic for what the FM can do in terms of improving the signal to noise ratio, but just to summarize it here for you, using FM on the cochlear implant side provides 13 points 3 decibels additional signal to noise ratio, so that's a huge benefit. Going a long way to getting you to the 15 decibels signal to noise that we want for a child with hearing impairment.

Using an FM on the second side, whether the child is using a hearing aid or a CI on the second side can add 16.2 decibels additional signal to noise ratio, one side gives you 13.3, and on two sides 16.2. Personal FM system will always give you the greatest benefit over soundfield and soundfield will improve listening, but it is going to provide less benefit than a personal FM system.

So here is little graphic that I was talking about, these little heads, and you can see the head at the top is CI alone, and CI alone, and then you can see 13.3 that I was talking about is the second little head from the left, and CI with FM is giving him 13.3 signal to noise, and then the one that's the greatest is on the far right with FM on both sides.

Sometimes we hear from personnel wanting to know whether they need to provide a child with FM on both sides, and obviously we should be evaluating a child for FM on both sides because that will give them the highest and best signal to noise ratio.

So some resources that we have for you on this, the Cochlear Americas educator guide, which I mentioned before, actually has those little heads that you can look at. We have HOPE on-line seminars on this topic. There's one on FM, and then there's something called back to school with cochlear implants. We have an FAQ's in the -- on this topic, and I left out the HRL here, but if you go into the HOPE area you can find it.

Then I've also given you something I really like. It is the access boards area on acoustics in classrooms. There's a lot of really nice information there. So the 14th tip is determine what services the child needs. Most children with cochlear implants received specific services at school regardless of their placement whether they're mainstreamed or not. And the important thing to remember is these will change over time to reflect the child's needs at a particular point in time.

We really have to ensure that we're looking at what is appropriate at that point in time to maintain a child's language development and academic progress. We did a survey a few years ago of what parents told us their child with cochlear implant was receiving at school, and these were the services that were typically provided. The first three there are speech, deaf ed services and audiologist were the most commonly received, and then I listed them. After that I think they're kind of random.

FM was very common. Individual or small group of instructional support. Captioning was being received by mostly older children, and it was about 10% of kids in the survey who were older, like 11 and up. Interpreting services were being received, as I recall, by 30% of the kids, and those were the children that were using total communication.

This was a survey we did in 2003, and it might look a little bit different today. So here are some additional resources for you on the topic. I'm going to keep moving along because we're beginning to run out of time.

So how can parents help? Very important role for parents in a mainstream setting. I mentioned before the importance of assembling a supportive team, and making sure the team members are talking regularly to each other. Parents, what you want to do is get the team up and going and get them out of the middle because you don't want to be the one that's carrying the information. You want professionals to be talking to each other.

So if that's happening nicely, just get out of the way and let it go. Parents can also be linked between educators and the CI team. Very important to be a presence in your child's school. You know your child the best, and you're the one that can best advocate for your child. You want to make sure that home is an auditory learning environment all day everyday and be involved in monitoring homework so that that's done properly.

So here are some more resources for you. We have coming soon one of our tips for parents called "Back to school" And "School is out." And a nice booklet called "Thrive and strive" That's intended for parents, and HOPE on-line seminar called "Children and cochlear implants." So back to Ashley.
>> Ashley: Thanks, Donna. What I might do is I get started on our last section about involving friends and family members in social development is encourage you, Donna, there's been a couple of questions that have come in regarding some specifics of the things that you have been talking about with acoustics. They may be things that you can type answers to and send to everyone and that would -- the people that are interested in that can access those answers while I discuss some of these issues regarding social and emotional development.

Just a few points on this. It is really only been in recent years that research has been initiated to explore the trends in social and emotional development of children using cochlear implants, so the information is not in yet in terms of how children are faring in that regard, but I think it stands to reason that because of the language delay associated with deafness, social and emotional development with cochlear implants can lag behind their normally hearing peers, as they're lagging behind in their language, so a few things we want to keep in mind, children's interactions often occur in hallways, the gym, the cafeteria, the playground where the listening environment is the worst.

So they're immediately at a disadvantage when interacting with their peers if in the noisy environments, so children with hearing loss might be missing out on the new cool things that are going on, and then again other children may be simply isolating themselves to avoid not hearing.

Another point for your consideration is that by definition pullout therapy, which is the model that we most typically use, that does isolate the child. So just a few points to consider as we move into some of these tips. Because we are growing so short on time, I'm going to favor one in particular over a couple of the others, so I'll kind of skim through some of these. Encouraging group experiences from a young age.

I think this is important for our children with cochlear implants. Begin talking with parents about opportunities for their child to play with typical peers on at least a weekly basis. From very, very young ages things like I went with my own son yesterday to a library story time tot session where the idea was reading stories and singing songs, and it was a nice opportunity to play with other kids. He's 18 months, so, you know, there's not tons of communication going on yet, but playing with other children and listening to the language around them can be important for children with cochlear implants, of course.

Opportunities in their place of worship. YMCA offers child opportunities -- many cases where parents can leave their children to play with others, so they don't have to be expensive day care type situations for children to have opportunities to play with typically hearing peers.

What will be important is for the parents to discuss strategies to work with group leaders to maximize the interaction. Whether it is a very young child or older child participating in a sporting activity or something like that, for the parent to let the professionals in on what's going on with their child will reel help them to maximize that opportunity.

Then we will move to tip number 17, bringing siblings into sessions. This can be a nice way to work some on the social and emotional development within the family. This allows you to model inclusion strategies for parents if they happen to be those that -- some occasions where families isolate the cochlear implant child. Maybe more protective, that sort of thing, so it is a good way to model inclusion strategies in those circumstances.

Or siblings sometimes there's jealousy with the cochlear implant child getting lots of extra attention with therapy and other appointments and things like that, so it is a way to circumvent some of the jealousy by including other children into activities.

Also allows for modeling strategies for the other children to improve communication with the child with a cochlear implant. Modeling self-advocacy language from an early age is one step towards tip number 18, building self-confidence and self-esteem. You know things like modeling for the child, could you say that again, and let me think about that. Just to show the child with the hearing loss is of course not the only one that ever makes mistakes or misunderstands.

So they get that idea that adults need help as much as anyone else and people with normal hearing do. But also models appropriate language for the child to take their own part and advocate for themselves by asking others to give them more time or to repeat for them.

Another very simple suggestion is to stay away from the testing dynamic and therapy interactions so activities are all play based and natural, and there's less on the line for the child or they feel there's less on the line in terms of answering appropriately and correctly each time if using more of a testing situation in a therapy session.

This is the tip that I really wanted to spend the most time on given our short time today, and that is to consider supports for nonacademic time. I do think that in most cases children are first mainstreamed into those special subjects or other nonacademic times things like art, PE, recess and lunch. Those are times that are nonacademic and therefore considered to be nonstressful to the child or nonstressful to the child's hearing progress.

In fact, those segments are sometimes the most unstructured and the noisiest times of day, yet we're providing the least support. That's kind of counter intuitive, so that's an idea that I just would like to throw back there and have you consider that, you know, one way for achieving the best outcomes would be for us to offer more support during some of the less structured times. Really consider how music class is organized or lunch and recess and consider, you know, some of the following things.

Using FM during these times. I think there's -- lip service pays to that, but doesn't always really pan out for students often to have FM usage throughout the school day in the special classes and assemblies and things like that, and that's actually something that's quite important.

I worked once in a school system with middle schoolers and very often the children in that group were bringing their lunches back into the classroom and isolating themselves away from their peers in the larger school setting because the lunch room was so noisy that they didn't feel that they could communicate very well, so tip an idea for that might be to set up a buddy system. Whether it is another student in the child's mainstream class or another mainstream time of the day that would be a lunch buddy or a buddy in PE or music time, transition time, or lunch group arrangement where there's a special table on Mondays X kids come to that table and on Tuesday X kids -- different kids come to the table so that there's sort of a time for a child with hearing loss to be a part of a smaller group within the same sort of social situation that other children with normal hearing will be a part of.

So just some ideas and things for you to consider to take back to your own setting. Another idea for you would be to review playground games as part of the gym class so that rules of play are understood. Again, recess, children are just tossed out to sink or swim in that unstructured time, but as, quote unquote, less stressful, but as a child with a cochlear implant we know that with the noise and the outdoor environment they lose a lot of what is going on, and so may not engage in what are considered the typical games of the recess.

So perhaps the gym teacher could use that as a lesson for gym time to talk about the rules of play of Dodge ball or tag which is a traditional gym game, but it is something they could work on with kids so the rules are understood when they do get back into the big wild world of recess.

Then the last tip would be to research support outlets for the families that you are working with, whether they are your individual clients or in your classroom. A child social and emotional development will be best met if a family's emotional needs are cared for as well, so keep updated on parent support groups that might be available. There's a growing interest in and participation in on-line message boards. CI circle is one. AGBell currently has the parent listserv organized in their parent section, and if you are a member of the organization, you know there's a big change coming about where shared interest groups will be created, and that's something to be on the look out for which ones will be of interest to or supportive to the parents and families that you work with.

the Hearing Exchange is another place to look for that. Hearingexchange.com, and there are also teen -- they have their own teen board as well, so that might be something that you could support your -- local counselors if that's appropriate to refer your families to those resources.

With that I will -- I'm sorry. Let me just let you know about some other resources. David Luterman is tops in our field when it comes to counseling issues and ten considerations for early intervention derived for nearly 50 years in the clinic. It is focused on parent communication that he's had and children with hearing loss, a family guide and counseling children in families as well as the Volta Review. Those are all great resources for you.

and I do apologize that we've crammed so much in, I guess, today that we have very little time for the question and ideas. I'm not sure if we'll get kicked out here or what will happen, but I guess I will turn things over to Donna quickly. Donna, you can go through the ending slides as well as let us know if there are any questions you felt needed to be addressed as we close today.
>> Donna: Okay. Just to remind everyone we will be scheduling our new fall/spring schedule of other event, and keep your eye on the web site. It should be up in two weeks. We know our first two will be on September 18th and October 7th. Both with Ashley, who you have heard today. Those will be parent events on developing auditory skills for kids.

a number of you sent me e-mails while we were going on with this about where the archived HOPE areas are in the web site. You want to just go to the -- the web area that we gave you earlier. It is www.cochlear.com/HOPE and click on on-line seminars for professionals in education, and then you will be prompted to look at either the new upcoming for the archived ones. You will find it there.

If you have any trouble, just go ahead and e-mail to me, and given you my web address there as well as the HOPE feedback address where we hope you will send us your feedback from today. And then we have got quite a few questions here that we can attempt to get to. Someone is asking can you mix the FM processor ratio if the students wants less FM and more CI emphasis? You absolutely can. That mixing ratio should be set by the audiologist. There should be some testing that goes on, but if the child has a preference in that regards, that can be done.

There was a question about ways to improve classroom acoustics and reduce reverberation. In a little bit of time we have here, I don't think we can go through that, but if you go to the web site that I suggested in the acoustics area for the access board, they have really wonderful suggestions on both of those topics. So take a look at that, and that will -- that will answer your questions on that regard.

Someone is saying where can we find the resources on mapping? Is it on audiology on-line? These are all HOPE on-line courses. We use the audiology on-line platform, so we're partnering with audiology on-line, but you will find them on the HOPE area of Cochlear Americas web site, and just as I talked about before, they will be in that area of archived courses. How much are the troubleshooting kits? They range in price depending upon which sound processor you're buying a kit for, so they're specific a sound processor. I believe they started about $180 and go up to 300. Again, it has a lot of different parts and replacement parts as well as listening headphones in it. So that's why they get up there a little bit.

I do think that is an eligible service under a child's IEP, and you can just remind people at school that's a one time purchase that should then follow the child through school. I usually recommend that if a piece from the kit has been used for some reason, I think it is legitimate to ask the parent to replace that piece and then put it back so you always have a complete kit at school.

There's a question here on strategies for teens. Ashley, do you feel you answered that during your earlier remarks?
>> Ashley: Yes. I think that I did, but if Jay had any further question -- I wasn't sure exactly when it popped in and what exactly it was in reference to, so if he has any further question about that, I would welcome him to elaborate, but I think so far I have, yes..
>> Donna: I see a question are you planning any future seminars more geared to teenagers and young adults?

We are. There's also a couple for teens that are up there already, and this one is from Jay Shonberger. If you send me a e-mail, I would be happy to send you specific titles that are good for teens and young adults if you have difficulty finding them.

Let's see. I think that's it. I think we hit all the questions and we are just a little bit over time. We want to thank this big crowd for joining us today. It was really good. You had a lot of good questions, and we hope to see you at HOPE on-line in mid-September when we're back with the first fall seminar with Ashley Garber. Thanks again for joining us.