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NATIONAL CENTER FOR HEARING ASSESSMENT AND MANAGEMENT
Using a Multi-Modal Approach to Support Children With Hearing Loss
MAY 19, 2016, 2:00 P.M.

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>>> Good afternoon and welcome to the second webinar in the better speech and hearing month coffee break webinar series. I am Tracy Dixon from the office of special education program in the Department of Education. I am pleased to say that I was joined by my colleagues from the offices of head start and child care and the Department of Health and Human Services to sponsor the series. We wanted to support the American speech language hearing association in celebrating this year's theme, communication takes care. We think these webinars are a way for all of us to hear about hearing screening and use of assistive technology to support young children with disabilities and their families. We appreciate all of you for taking the time out of your busy schedule to attend today's session. Please join me in welcoming Karen Latimer who is with the center for disabilities studies at the University of Delaware. And she will be talking with you today about multi-modal approaches to supporting children with hearing loss. Welcome, Karen.

>> Thank you, and thank you everybody for joining our webinar today for better speech and hearing month. My name is Karen Latimer and I'm a assistive technology specialist with the University of Delaware. DATI is one of state initiatives -- state assistive technology act programs that exist in every

state and I'm associated with the Delaware early childhood assistive technology demonstration. A federally funded program for approved participation of young children in daily routines and activities through the use of assistive technology and modifications in the environment. Today we will focus on deaf and hard-of-hearing children who are being served in early childhood settings. It's important to know who they are so we can help them have enriching learning, playing and social experiences.

Children learn to communicate by imitating sounds they hear. If they have a hearing loss undetected and untreated, they can miss much of the speech and language around them. This can result in delayed speech and language development. Problems with interacting with adults and other children and difficulties in learning.

One challenge can be finding out who they are. Especially with young children, the signs of hearing loss can be subtle or dismissed as merely developmental differences or child specific preferences. The signs of hearing loss are misunderstood or mistaken for signs of another condition. Another thing that makes detection of hearing loss tricky at times is that the loss may only be in one ear or it may come and go with changes in a child's health. Ear infections and even the ones without noticeable symptoms can cause fluid to build up in a child's ear dramatically reducing the amount of sound he hears.

Babies can't tell us they are having trouble hearing. Instead we have to look for signs in their behavior that suggests they may not be picking up on auditory information from their environment and other people. Some telltale indicators in babies may include they don't startle at loud noises. They don't turn to the source of the sound which you may expect to see at about six months of age. They turn their head when they see you but not if you only call their name. If you are talking to them from behind them or from the other room, they are not likely to stop what they are doing to look for you. They don't move their eyes to follow the sound. They seem to hear some sounds but not others. If you observe any of these signs, refer the family for further screening. This was the topic of the webinar that we held yesterday which will be archived for further reference.

Hearing problems may not be obvious until children are 12 to 18

months of age when they should be saying their first words. Children who can't hear well often respond to their environment by using their senses of sight and touch. Which can hide their hearing problems. Other signs of hearing loss in a toddler or pre-schooler might be that the child talks too loudly for the circumstances such as when their communication partner is right next to them. The child may appear to daydream because he is not connecting with the things going on in his world. Not reacting when he is spoken to is a great example of that. The child might ask to have the volume on the TV turned way up. Or he might ask a lot of questions like saying huh or asking to repeat the words of the child doesn't follow directions that you provide using only speech but might follow gestural directions like following a point very well. The child might give off the wall responses to questions because he didn't actually hear. The child might watch others carefully to try and pick up clues about what they are supposed to do because they didn't hear your spoken directions. The child's speech development may lag behind children his age. Or he might have some speech but it sounds different from the speech of other children his own age or is very difficult to understand.

If a hearing loss has been diagnosed it becomes important to know whether the loss is mild, moderate, severe or profound because that tells you how much usable hearing the child has. These are terms used by audiologists, speech language pathologists and doctors to describe the degree of hearing loss. They are associated with decibels, a measure of sound intensity but it is much more important to understand these words in terms of their practical implications to the child's life. A mild loss means that a child can understand speech. But may have difficulty in a noisy environment especially when he can't see who is talking. A child with a mild loss is unable to hear soft sounds so won't hear a whispered conversation in the quiet room. A child with a moderate loss has considerable difficulty hearing normal conversation in a quiet room. If there is a background noise, he will not be able to understand many of the words unless he can see the mouth of the speaker. A child with a severe loss will not be able to hear conversation unless the speaker talks very loudly and the child with a profound loss cannot understand even loud speech. Children with moderate, severe or profound hearing loss require hearing aids and other technologies to help them learn and interact with others. This makes it important to know if any devices have been provided to the child that either boost the level of the sound getting to

their ears or that convert the sound in a modality the child can perceive like a visual signal or a vibration. But before we talk about devices that can help children with hearing loss, let's talk about simple techniques and strategies that can be used to help children with hearing loss engage with their environment and the people in them. Make eye contact with the child before beginning to speak to him that will signal that information is about to be exchanged. You might need to use gestures like waiving to attract the child's attention to you and then encourage him to pay attention to your face by establishing eye contact and keeping your face in his line of sight. We naturally move around when communicating with small children but be mindful if you turn your head to talk to another child or you turn away to do something, you have just taken a really important source of information away from the child who relies on being able to see your face.

Speak clearly and slowly without overemphasizing the words or exaggerating the shape of your mouth. It is uncommon for people to make vocal movements much more pronounced when they realize the person they are talking to doesn't hear well. But those exaggerated gestures can distort the visual information rather than make it clearer.

Don't be reluctant to share information in other ways. Being multi-modal is beneficial for the majority of young children but especially important for young children who are deaf or hard-of-hearing. You can point, use other gestures, use photos, pictures or other visuals to communicate information. And you can encourage the children to use alternative modalities with you as well. After all, the point is to get information across and how you do it is less important than managing to do it successfully.

Avoid noisy environments when possible. Children who try to make the most of the hearing they do have are at a disadvantage in noisy situations. The noise drowns out very meaningful sounds and children can become frustrated when they know somebody is talking to them but can't make it out because of the background noise.

We will talk about this more in a bit when we turn our attention to assistive devices. Even without special tools, you can use lights and vibration to attract a child's attention. Flash the classroom lights to signal you are looking for attention from

the children. Use something that creates a vibration such as hand clapping or beating a drum for the same purpose.

Similar to what we touched on before, don't hide your mouth, chew gum or food while talking to a child. It interferes to get information from watching your mouth

If the child does not understand you. Try different words. Certain words are more visible because they involve the lips rather than the structures inside of the mouth. Think about the difference between the word infant and baby. One of those words is a lot easier to see.

Be in good light. Preferably with the light on your face not behind you. You want to maximize the benefit that the child can get from looking at you. These are really common sense strategies that anyone can implement because the child may not be able to detect or understand speech or other sounds, make sure that important information is conveyed in another way.

Now let's talk about some devices that can make an incredible difference for children with hearing loss. The right device depends on what caused the hearing loss and how much the child can or cannot hear. Several types of hearing devices are available for children with the most familiar ones being hearing aids. Hearing aids are small, battery powered devices that are worn on the ears to help children hear more clearly. They pick up speech and other sounds through tiny built-in microphones, make those sounds louder and play them into a child's ear. Children can begin to use hearing aids when they are as young as one month old.

There are several different types of hearing aids. The most common type for infants and children are those that hook behind the ears or BTEs. BTE hearing aid send sound to the ears by attaching to ear pieces that custom shape the child's ears. These custom ear pieces are called ear molds. Ear molds need to be remade as children's ears grow. Because infants and young children grow rapidly, it is common for them to need three or four or more sets of ear molds every year. If ear molds don't fit well, sound can leak out of the ears. When hearing -- then hearing aids aren't as helpful as they can be and might make a whistling sound.

Hearing aids come in different sizes. Size is based on how much

hearing loss a child has. Children with more hearing loss being more powerful -- need more powerful hearing aids which tend to be bigger in size.

Hearing aid care typically focuses on batteries and ear molds. Hearing aids tend to need new batteries every one to two weeks. An audiologist, a doctor who specializes in hearing problems will help families decide which hearing device is right for their children. Beware of batteries around small children. They are easily swallowed and very dangerous.

There is some basic care common to all hearing aids. They should be cleaned daily by wiping them off with a soft cloth. Do not use water, solvent, cleaning fluid or alcohol on hearing aids. These will damage them. Make sure your hands are clean when you handle a hearing aid. And cover the surface you are working over with a soft cloth in case you drop one

Another family of hearing devices is referred to as assistive listening devices or hearing assistive technology they work like binoculars for the ears, amplifying particular sound of interest like the teacher's voice or a sound track on a video and work with or without hearing aids. Hearing aids amplify all incoming sound. Assistive listening devices pick up critical sounds like a microphone and transmit the sound to the child. An audio loop is a wire that encircles the room and connected to a sound system. It transmits sounds directly to the hearing aid or a receiver that child wears.

Infrared and FM systems send sound sending light beams or radio waves to a personal receiver. These can connect to the child's hearing aid or send sound directly to the child's ears.

Because children may not be able to rely fully on sound to pick up information from the environment, another family of devices known as alerting technologies turns environmental sound into signals that are seen or felt or represent a combination of lights, vibration and amplified sound. These kinds of devices can make a smoke detector flash in addition to providing a noisy alert. They can cause a small device to vibrate when an alarm clock goes off or there is a knock at the door.

If addition to devices, the arrangement of a room can be modified to make it more friendly for a child with a hearing loss. Typical classrooms are noisy places, especially when

there are a lot of hard surfaces like walls, ceilings irks windows and floor, windows and floors. Sound bounces off hard surface and can cause unpleasant circumstances. Simple solutions like sound absorbing tile and carpeting on the floor can reduce the amount of sound bouncing around the room.

Another important thing to remember children who have a hearing loss whether or not they use a assistive technology of one sort or another will benefit from the service of a speech language pathologist to help them make the most of the hearing they have and learn to use other communication options like lip reading, sign language or picture communication.

In this webinar we talked about the ways that hearing loss can affect a child's ability to develop speech, language and social skills. Earlier a loss is detected, the sooner a child can get services, devices and the more likely they are to develop important communication skills that enable them to make friends, interact with family members and teachers and get information from the world around them.

Thank you for taking time out of your day to learn more about support for young children with hearing loss. I hope to be available to answer questions for you and I have additional resources to share with you. Here are some links that will connect you for additional information. The first will lead you to a directory of all of the state assistive technology programs. These programs offer a equipment demonstration and loan and a variety of other supports including training and assistance in inquiring -- acquiring assistive technology. The next links the information about hearing loss provided by the centers for disease control and prevention which includes basic information as well as information about screening, diagnosis, treatment and research. And finally I posted three links to the American speech and language hearing associations that address the causes of hearing loss as well as hearing aid and hearing assistive technology resources.

>> Thank you, Karen. I have gone ahead and opened up the question field. So if any of you would like to pose any questions for Karen today, you can do it in that way. And we have one question coming in. And this is about are you providing the slides from the presentation today? There is probably two answers to this question. The first is that today's webinar is being recorded and will be posted online within the next week or so. You will receive an e-mail in the

same fashion that you received information about this webinar with the link to where you can find today's recorded webinar. Now Karen, are you able to share the actual slides with individuals who might benefit from those?

>> Absolutely.

>> So perhaps the best way to do then would be for them to contact you via e-mail which in your e-mail is in the left hand corner there. You can e-mail Karen and request additional information from today's webinar including her slides.

Any other questions that we would like to see here? What are some strategies to work on cul-de-sac residence.

>> I'm not sure I understand the question.

>> So it reads as what are some strategies to work on cul-de-sac residence. Perhaps the person posing this question could clarify that question to help our presenter out. Let's see if we get a clarification here. I'm not seeing a clarification coming through. I can't help you either. Here we go.

So she is saying the more nasal quality of speech is that common in a hard-of-hearing student.

>> Well, certainly there are resources available for speech output devices if speech is not understandable to others. We certainly can provide information and state assistive technology program and speech language pathologists can provide information about repair strategies for communication whether that is picture based or device based if the student isn't able to make themselves clearly understood. There are devices and services that can assist with that.

>> The next question, Karen, is what are some strategies to work with audiologists to ensure that hearing aids are fitting and working properly in an early care setting?

>> I think that communication really with the family and the audiologist. If you know something that is not working well making sure that family and the audiologist is aware of what's not working. There is a certain scenario or certain area that you are noticing a change to make sure that is followed up with in the directly to the audiologist.

>> The next question is, are there agencies or sources that will help purchase equipment to check hearing? We go into the home so we need something portable. I can actually help answer that question after you.

>> Go right ahead.

>> I'm Will Iserman and with the early hearing detention and intervention -- well, actually, no I'm not. I'm with the early

childhood outreach initiative known as the outreach program at Utah State University. We serve as a national resource center to help people develop hearing screening practices. What you are asking about is most likely learning to do otoacoustic emissions screening. If you are talking about older children, perhaps peer tone screening, I would encourage you to look at kids hearing.org and in there you will find some information about equipment and training as well as a mini grant template that we prepared that you can submit to local charitable organizations to request funding for purchasing equipment.

Here is one, is compliance an issue for young children and if so can you provide some tips on handling that type of situation?

>> Is compliance in what -- I guess any more clarification.

Compliance in what format are we talking about? If we are talking about is compliance an issue for building compliance, making sure that for example smoke detectors are available in a multi-modal fashion, yes, there definitely are -- architectural standards but they definitely have to be able to meet.

>> She is asking about do young children typically refuse to wear hearing aids.

>> You probably can answer that better than I can.

>> Well, I think it's probably always a challenge to finesse children's cooperation around use of technology. And it's an ongoing process. Jeff Hoffmann a pediatric audiologist is on with us today. Jeff, do you want to give any comments about that?

>> Well, certainly, I think probably the best thing would be just to direct people to baby hearing.org which is -- I believe they have tips on there on gaining compliance strategies to use -- to keep the hearing aids on also.

>> The next question, is there a system for loner aids if a child loses their hearing aid?

>> Again, that's something you are better able to answer than I. I know in most state programs for assistive technology that's not normally something that we work in because of the personal nature of the devices. Perhaps that's something that, Will, you can address more directly.

>> Jeff?

>> I can talk about that. It's variable state by state whether there is a loner hearing aid bank or not. I think probably well over half of the states have some type of a hearing aid loner bank. And the -- how they operate is different in those states that do have them. Infant hearing.org does have a listing of hearing aid loner banks, although it was a couple of years ago

we did that survey. It's a little bit outdated. People can check for their states. The other option is to check with their state's early hearing detection and intervention pro-- detection program. The EHDI or the newborn screening program and most of the early hearing detection intervention coordinators will have a good sense of what resources might be available for children as far as loner hearing aids whether it's -- when they are first identified and need a hearing aid or perhaps as a loners in case they lose one until they can get another one.

>> Let's see, do we have any other final questions before we wrap it up for today? Anything else?

Doesn't look like. So Karen thank you very much for preparing such a concise delivery of information to help us understand the multi-modal approach to supporting children with hearing loss. Everyone as a reminder, Karen's e-mail is up in the left hand corner. If you want to correspond with her offline that way, she is offering to answer any other follow-up questions that might occur to you. And also to take any requests for these slides or other things you might have.

This webinar has been recorded and will be posted in the next week or two on the internet and you will receive an e-mail with a link to that where that's posted.

Tomorrow we have our final webinar of this five webinar series celebrating better hearing and speech month. And tomorrow's webinar is provided by the center on technology and disability which will be focusing on free resources to support the use of technical -- of assistive technology in young children with disabilities. So to join us there it's the same time, same place, same link as you use today. So we hope you will come back and participate in that as well.

Again Karen, Jeff, Tracy as well.