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EHDI - PARIS

CONNECT & DISCOVER

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>> TINA CHILDRESS: All right, let's go ahead and get started so I can get you out on time. Good afternoon, everybody. My name is Tina Childress, and I'll be talking to you today about assistive technology. I was working late on my presentations last night, so I didn't know if I would get them up on the app or the website, but you can find it here on this Google Drive link. I know it's available now on the app. So if you want to take a screenshot of that, you can do that.

So a little about me... I work for the Illinois School for the Deaf as an Outreach Trainer. I also work part time as an educational audiologist in the mainstream school setting. I do private speaking on the side as well. I used to work for a cochlear implant company. Why? I have bilateral cochlear implants. I don't hide my implants. I have had this same haircut since I was 12.

I am a signer. So I am grateful that the access EHDI has. It's been phenomenal. I love the fact that every workshop has had ASL interpreters, as well as captioning, because, you know, as you think about your kids that you're working with and you think about advocacy, and going to a professional event like this, like you guys could look at your schedule and be like, no, I don't want to go to that one... sometimes for us we have to arrange for access like this, but I can be like... okay, I'm going to go there and know that I have access. So thank you, EHDI, for that.

Way off topic.

Anyway...

I love all things technology. I love gadgets. I horde gadgets, like a TTY from probably 20 years ago. Do you even know what a TTY is? Some of you are young. Do you realize the icon at the top for save is actually a floppy disk?

Anyway, moving on...

Wow! You tell I'm a little bit loopy?

So my previous presentation was talking about apps. So that link that I sent you previously and, again, you can access it from the app, you can see handouts from the previous session as well.

And I am a mentor and an advocate. My love is actually theater, live theater. So I've worked really, really hard to work on access on theater. In fact, on Broadway, did you know now there are captioning devices? So I can go to pretty much any show any time. It's a pain to hold a device for 2.5 hours, which I'm trying to make them realize what a pain it is, but I can go to shows for like half price when I buy a ticket at TKTS on Times Square. I don't have to plan my whole vacation on a production. So I'm very proud of that.

So 25 minutes is not enough time to talk about this topic, so I'm going to talk about this in generalities.

What do parents, as well as audiologists, as well as therapists and teachers need to know?

One...

Do you know what is on every single program on your amplification?

Think about that. Do you realize that you have the option for three or four or five?

You need to know this because at some point in time you need to access this.

So, with EHDI, I understand we're talking about young kiddos and a lot of times ‑‑ and most times, if not all, the audiologist will disable the buttons so that the kid can't play with it. But as they get older ‑‑ and I'll talk about some kind of milestones and advocacy kind of checklists, there will be a point where you will start wanting to think about, when is my student going to be independent enough to change the program on their own device?

So you need to know what is on each program.

How do you find out what is on each program? You have to talk to the audiologist.

Did you know that when you go to an audiology appointment and you get something, you know, a map check or you get your hearing aids adjusted, they should have the sheet that will tell you what is on program 1, 2, 3, 4, 5...

Which one is telecoil? Which is the one you need for FM?

So my audiologist knows me enough that I'll lose the paper. She just lets me take a screenshot of her computer screen and then I have it on my phone, which I always have with me. And I actually attach it to my calendar appointment. So in my calendar I'll say "appointment with Julie, map check," and then I will attach that picture. So I know what is on each program. But also, when did I have my last mapping appointment.

So use the technology that is in your pocket.

Okay... the next category...

What are your options for accessibility?

Does your device even have the ability to have a telecoil?

What are the options for FM and DM? Let me clarify this. So FM is kind of what we could... you know, it's somewhat older technology. FM stands for frequency modulation. So when I talk right now... oh, this all hard‑wired. Anyway, FM, think of it as a radio wave. It's analog, so it looks like a wave. So when I talk, the signal goes out to you. If you have a receiver through a radio wave. So DM, DM is what we would call digital modulation. So instead of a wave, it takes that wave and breaks it up into little chunks and sends it from the transmitter to your receiver in a digital fashion, which lets us do a whole bunch of different things at the same time.

So when I say "DM," right now the only company that is doing DM is Phonak. And their DM technology, they call it Roger.

So, it's kind of like... you know how we say sometimes Kleenex?

That's a brand name, but it's really tissue.

Or Xerox is really a copy machine.

So Roger is actually DM technology. Because sometimes people get really confused about that.

FM would be other companies like Oticon. Phonak still has some FM products that you might see in the school. But all of their new products is DM.

Anyway...

So you need to know, you know, what are the capabilities of your child's hearing aid or cochlear implant processor? Because they're not all the same.

The next thing you need to know also... do they have any other accessories, like things called a Streamer?

And I'll talk about how that works also.

Does your hearing aid or cochlear implant, can it actually accept a physical cable plugged into the bottom of it or to the back of it?

So, this is a conversation, again, to have with the audiologist to see what kind of options are available for each child's device.

The next section, when we talk about assistive tech, it's not only for the kids that need to be able to hear. What about the kids that even with FM or DM don't benefit enough from their amplification and they need visual or tactile support?

So, what things are available for things like alarms? Or wearables?

I get questions at least once a month from a parent asking me, what kind of alarms are out there so that I can keep my child safe, you know, at night.

What are some practical solutions for those situations?

What about the kids that need speech‑to‑text? So those are the kind of things that you need to know as well.

I'll briefly talk about solutions for different situations, like home, school, and community.

And then what I really want to leave you guys with are resources for troubleshooting. 25 minutes, I can't teach you everything that I need to teach you about assistive tech. And so I know I'm not going to get through all of these slides today. A lot of the slides at the end are resources. They're all on the handouts. I wanted to just make sure that you had them for reference later.

So, when it comes to connectivity and ways to connect to sound, I basically think of it in three ways.

So the first way is what I would call acoustic. So when I talk to you right now, my signal from my microphone is going to that speaker and if you have hearing aids or cochlear implants, you're just listening with what we call the environmental microphones on your device. It's just what you hear coming to your device.

So, for me, when I talk on the phone, you know, I hold the phone up to my cochlear implant, speakerphone, listen to it. Now headphones is another question I get.

So when people ask me, what are the best kind of headphones to get, I don't care if you're getting $100 or $200 Bose headphones versus a $20 pair from Walgreen's. What I do care about is the style. And when I say "style," you want to make sure that you have this cushion or this cup or this doughnut around the ear piece. You do not want headphones that are flat that just have like that foam cover.

And there's a few good things about this. One, it helps direct the sound towards your environmental microphone. It helps block out any of the noise on the outside.

If you have hearing aids, because the cup actually makes the headphones sit higher, away from the environmental microphone, you are less likely to get feedback. Right?

How many of you have seen the kids when they wear a hat, they immediately get feedback.

So headphones in this style are what I recommend. So this next slide shows a variety of cochlear implants and I guess what they're calling off‑the‑ear cochlear implant processors, where it's all‑in‑one. And some hearing aids.

And what I want you to notice is where the environmental microphone is. So think about the children that you have or that you work with and think about their amplification. You need to know where the environmental microphone is. The parents need to know.

Their teachers need to know. Because so many times I have gone into a classroom and my kid has been complaining, I can't hear on the headphones. Because he's wearing them down here. Where is the environmental microphone in most hearing aids? Up here. They need to wear it like this. When I got my first cochlear implant, it was a body processor. It has a long cable and box. I used to talk on the phone like this.

I have a picture of my daughter... how did she talk on phone... like this. She was like one and a half, pretending to talk on the phone.

So your kids need to know where their microphone is. There's really only one company. If you have a student or a child that has Advanced Bionics and wearing the ear level processor, we actually do have a microphone at the entrance to our ear canal.

So when I talk on the phone, I actually do hold it to my ear. But a majority have them on the top of the ear, the all‑in‑ones have them on the top. So it's really important that you know that and that your family needs to know this information.

The second one, this is definitely the most complicated. And this is a little bit ‑‑ it can get confusing. It's wireless.

So how many of you have no idea what a telecoil is?

Like if I say "telecoil," you don't know what it is.

Awesome!

So what a telecoil is, it's actually like a metal bar with wire around it that is in hearing aids and in cochlear implants. It's always an option. And what it does is it picks up a very specific electromagnetic signal. For those that have been in the field for a while, I think telecoils, or T‑coils is another way to call it, have had a bad rap. But we're seeing a surge of people using telecoils and telecoils is giving us access to different venues.

So, for example, there's a specific signal that comes from a telephone that will be accessed through the telecoil. So what I do is switch programs. When I put the phone up to my cochlear implant, all I hear is my phone signal. So I could be in the middle of O'Hare airport and it can be very noisy and I can hear very well on my phone. Most landline phones are telecoil compatible. A lot of cell phones as well.

So the second picture shows what we call a hearing loop or a looped room. So if this room were looped, there would be a physical wire that would go around either like a specific section or it might go through the whole room. It would connect to the mixer, and when I talked, it would go to the mixer and send the signal through the loop.

Let's say if you have hearing aids, you switch to the telecoil program and that is it.

When I talk, it goes straight to your amplification.

Okay?

It's all about options.

There are a lot more venues in the U.S. that are starting to be looped. Europe is way ahead of us. I'm so excited I'm going to Amsterdam in like a week and a half. So I hope to experience looping in a different country. So that will be cool.

There are even looped venues for like sports venues.

So we're just... it's all about options. You know what? We have three, four, five programs. You know how many programs I use daily?

One. For the most part. Every once in a while I'll switch to the telecoil program if I need it. But just have it there, just if. Have that there as an option.

If you are using FM or DM, one of the options is to have a receiver that can be accessed through the telecoil. This is what is called an amplified neck loop. And what an amplified neck loop does is this connects to my cell phone via Bluetooth. And then when I wear it around my neck, that's a loop, it goes to my cochlear implants through telecoil.

So I'm driving and it has to be hands‑free driving, you know, no holding my cell phone, if my mom wants to call me, which she always wants to call me, I'll drive, I'll see she's calling. I press the button. And my phone talks to the neck loop and it goes straight to my ears. Hands‑free.

What I like about this one, this is actually... and I'm not getting paid by them. It's called the Clear Sounds Quattro, and I think it's called the newest model is called Pro. And what this thing is, with the silver, it's actually a Bluetooth microphone. This is kind of like a poor man's FM. So this separates ‑‑ my kids look at it and call it the little Oreo. When you put it together, it looks like a big fat Oreo.

So this is a microphone. I used to throw this in the back seat. They could talk to it and it would go straight to my ears, because it was like a remote microphone.

So another type of wireless ‑‑ oops.

Another type of wireless technology are the streamers I talked about. How many of your kids or your children that you work with or have, have a streamer device available with their amplification?

Okay. Or that you have.

And so streamers, basically think about it this way... anything...

No, that's not true.

Things like iPads and iPhones will connect to a streamer via Bluetooth. Okay?

And then it sends the signal up to the hearing aid or cochlear implant via a proprietary signal. And I say "proprietary" because I can say, oh, I have a Phonak hearing aid, here, use my Phonak streamer. But you have Oticon hearing aids. It's not going to be compatible. It's not universal.

That neck loop, this one, the Quattro, as long as you have a telecoil, it doesn't matter what device you have. But for streamers, it's proprietary.

And we're seeing this more and more in our society, being ‑‑ how many people you know, like, have Bluetooth earbuds and things like that?

It is becoming very, very mainstream. And so it's really exciting, okay?

Some of these can also work as a remote microphone. So this little thing called the Mini Mic 2, I could give this to someone speaking, when they talk into it, it goes straight into my cochlear implants.

So there are lots of options up there.

The third way that I think about connectivity is called Direct Audio Input. And what this means is you are actually hardwired to the device that you are listening to. So if we're talking about hearing aids, you have to have a special adapter on the bottom of your hearing aid. You'll talk to your audiologist to see if that's possible. And there's a cable that plugs into it and then the other side plugs into the headphones jack of the computer or the iPad or what you want to listen to, but you're hardwired to it. But then again it's not as complicated. You just plug it in and you go. I have students that prefer listening to their computer for things like state testing with a cable like this versus having to hook up the teacher microphone and things like that.

So the next slide... why does it look like that?

If you have a student that is using cochlear implants or a bone anchored hearing device, if you are going to directly plug them in, please, please, please either use a cable that has built‑in search protection... that's what these big things are... or only plug into battery operated devices. Why?

If I plug into this computer, which is plugged into the power cord, which is plugged into the wall, and there's a power surge or a lightning strike, it could travel through all of that and damage my processor. Of course, we don't want that to happen.

So you want ‑‑ maybe these cables with the built‑in surge protection, only plug into things battery operated.

So for home... wow!

There are different alarms available. I'll give you a resource that will give you some ideas for different alarms that are available. I have a lot of deaf friends that are using things like Nest doorbells. They can see when their friends are at the door. They will get an alert. So that's very helpful.

Those of you that like to use your cell phone as an alarm and put it in your pajamas or under your pillow, please don't do that and set yourself on fire. How many feel your phone get extremely hot when you plug in overnight? There have been instances ‑‑ it's meant to have air circulation, not to be smothered. So the kids deaf or hard of hearing, they tend to do that more because they're trying to feel the vibration. There are different things out there, like this little cradle. Or even this Bluetooth bed shaker thing that connects to an app on your phone.

Those things are available.

And then, again, wearables are, you know, just a great thing. I love being able to see my text to know that I'm getting something.

So all states have an amplified telephone distribution kind of system. Anyone ‑‑ it doesn't matter your age. You can get an amplified phone for free.

When shopping for cell phones, I don't have time to get into this, but look for what is called the HAC or the hearing aid compatibility rating. You want anything rated 3 or 4. That's all I can say in the time I have left.

Mobile VRS you know, having apps on your phone that allow you to have access to video relay. There are apps that will caption your telephone calls. And then also along the same lines of the amplified telephones, there are ‑‑ within the telephone distribution system, you can even get a captioned telephone line for use at home. And at work. If you work in a place that has strict security... so, for example, a school or a hospital, it might be a little bit more complicated.

School.

How many of you have students that are school age, like preschool, a little older?

So, you know, there's a variety of different transmitters that are available. This is what I would ‑‑ if I'm the teacher, that I would wear or that I would pass around.

There's different solutions when you're doing team teaching or group conversations where you can have multiple microphones that are available.

Receivers. This is what the kid with hearing loss wears. The first receiver that I ever used with my FM system, I had to plug it into the bottom of a cable and it would just kind of swing at the bottom like this. I had to make a little pouch so that it didn't swing. So having everything ear level and integrated is really amazing and awesome.

This is audiology acronym. It's another word for sound field. It stands for Classroom Audio Distribution System.

But some people call them speaker towers or sound field. These are other things that are available in the schools.

Now we're here to resources. I have three minutes.

How many of you guys have ever seen the thing at the top left called a merry‑go‑round?

This is awesome. You can find this on Amazon. I think it's like 13 bucks. I bought ten of these and gave them to my teachers for Christmas. But what it does is, like, I would hold it and you can see your ear. So if you're trying to teach your child how to put in their earmold or put on their hearing aid, this is a really great tool.

Sometimes mirrors kind of mess things up because it's like a reflection, but I actually first saw this and thought about ‑‑ when I do earmold impressions. When I do earmold impressions, the kid kept turning their ear because they wanted to see what I was squirting into their ear, but with this they can see everything I'm doing.

This video on the bottom right is a great short video which we don't have time for, that talks about how to tell the difference between a dead battery and fresh battery. How many have taken the sticker off the hearing aid battery and put them both down and can't remember which is which?

Okay. If you take them and drop them, if one bounces and one sticks, the one that bounces, no good. Because there's chemicals inside of it, and the battery has been used up, it's going to be lighter, so it's going to bounce.

The fresh battery will stick to the table. Nice trick, right?

For all of these resources and things that I have thought about over the years, I have a social bookmarking site where I categorize things like helmets. People ask all the time. I have a daughter that wants to play softball, what things are available to wear over her hearing aids? You will see hundreds of topics available on there.

For those that don't know about my app list, they're available for iOS devices as well as Android devices and all of those different categories are represented.

I do have a blog.

This particular...

Bless you.

This particular blog post is called Name That Part. Do your families and kids know how to name parts? Earmold, tubing...

Okay, I've been to some presentations and it's obvious that some families don't know what the different names are.

If you have students with cochlear implants, what I have done is a side‑by‑side for all three companies' resources, my contact information, troubleshooting tools, educational tools. The one on the right, how many parents can say my kid has an Advanced Bionics NICQ90 or my kid has a Phonak Q50?

It's kind important to know. It's like I have a 2007 Toyota Prius as opposed to a red car.

Retention is an issue.

Anyway, we're out of tile. Please feel free to email me. My email address is on all of the handouts, but I left you with lots of resources and checklists, and things that I think will be helpful because I knew we would run out of time.

So thank you so much.

[Applause]