Grand Rounds: Making Appropriate Referrals, presented in partnership with the University of South Dakota

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Welcome today, everybody. For today's course, we are excited to have a wonderful group of people from the University of South Dakota to present grand rounds making appropriate referrals. I'm going to turn everything over to Lindsey Jorgensen now and she will guide us through this great course. Thank you so much for having us all here today. My name is Lindsey Jorgensen.

These are our disclosures. We really have very few financial disclosures, and here they are if you would like to read them. Additionally, the views expressed here are that of the author alone and not the state of South Dakota, the South Dakota Board of Regents, the US government, or the US Department of Veterans Affairs. I do hold an appointment with the VA.

The learning outcomes for this is that we our goal after today is that you can describe the current network of referrals within your area for hearing healthcare, identify the hearing healthcare practice specialties and ways that you can refer, and then describe three areas where referrals should be made for your individual hearing healthcare practice. I'd like to introduce everyone once again. My name is Lindsey Jorgensen. I am the chair of the Department of Communication Sciences and disorders at the University of South Dakota. Alongside me is Jessica Messersmith, who will be presenting first after this introduction.

She is a professor within the Department of Communication Sciences and Disorders, as well as the associate dean for the College of Arts and Sciences. I also have with me Jennifer Phelan, who is also an audiologist and professor within the communication sciences and disorders department. She is also our audiology clinic coordinator. Liz de Velder is someone that many of you may not know, but is here within also a professor within the Department of Communication Sciences and Disorders and is our speech language pathologist on this team and she is our SLP clinic coordinator. We do love to have two of our students with us on this grand rounds.

Gabriella Emmy is a current extern at a VA and we're really excited to see her. We haven't seen her since April May. And then Sammy Sepulvato is a third year AUD student and she will be looking for an externship next year. She is very interested in pediatrics, which you will see a bit from the case that she will be presenting. So we're really excited that you all can join us today.

And thank you for joining us on. For many of you, your lunch hour, I'd first like to introduce doctor Jessica Messersmith for her case. We all kind of gave these a fun name, kind of following a theme. So she's going to be talking about somebody who is an appropriate referral based upon something on decline declining. Jess, take it away.

Thanks, Lindsay. So, as Lindsey said, I have an administrative role, but I'm also an audiologist by training and I still see patients in the clinic. So as I'm talking with you today, I am talking with you about a case that I recently interacted with in the clinic when I was working with pediatric patients. So my case today really is a combination of my two passions of cochlear implants and pediatric cases. And I'm going to be talking with you about a more complex case in that their performance while using the device changed across that use timeline and then looking through this case to identify those indicators that we can watch for, for knowing when something is going on and what we need to do when something is occurring and where to send those individuals for those appropriate referrals, which is going to be, as Lindsey indicated, that tying threads throughout the course or throughout the cases we present today is really thinking about those appropriate referrals and where we need to send patients to ensure the best outcomes.

My client, my patient that I'm talking about is an eight year old cochlear implant user. At the time of the appointment that I'm reporting, they are a bilateral advanced bionics user with an internal device of high res ultra 3d on each side using a NIDA Q 90 bilaterally. They were implanted many years ago. They were implanted when they were about three and a half years of age with a sequential implantation across the two ears. The intention with this case was that they would be implanted simultaneously bilateral, meaning that both ears would be implanted at the same time.

However, due to complications during surgery, at the time that was not possible and that second ear, the left ear, was delayed a month to allow some time for healing and for the family to get back to the center for surgery. A bit of context for that here at USD. We are a cochlear implant center, but we don't have a surgeon on site. So I always describe us, I jokingly refer to us as free agents when it comes to surgery. We work with our patients to connect them with

surgeons in the region to ensure that they are working with the person who is, if you will, best suited for their case and their needs and their ability to travel.

So, across the time that this child has had their cochlear implants, they originally started with our clinic and back when they were three and a half, when that cochlear implant was first activated, that fitting was optimized based off of ESRT or electrical style reflex threshold testing, in combination with our validation testing of cochlear implant thresholds, auditory, speech and language development, they had a temporary relocation due to family situation and then returned to our clinic for care when they return to the area. So this appointment that I'm going to be reporting on is that first visit back to our clinic after having relocated to a different area. So what I'm showing you here on the screen is results from impedance testing in the left ear. For those unfamiliar with cochlear implants, impedance testing is one of the initial assessments of the function of that internal device that we perform at every cochlear implant appointment. So this is something, it actually runs automatically in harmonics.

So when you connect that patient that users cochlear implant to the programming software, one of the first things that occurs is these impedance. This impedance test is completed. So, impedance, what they tell us is the flow of energy through that internal device, specifically the opposition to the flow of energy. And when you're looking at this image here, again, this is a left ear. I've shown you a selection of impedance tests across time.

I have four different points in time indicated with the current date in the blue and then subsequent appointments or previous appointments. Excuse me, in the unfilled symbols, really where I want to draw your attention to is what's happening in electrodes nine through 16. So those are, you can see kind of the variated colors from the lighter blue to the darker blue, and the vertical stacks moving across the screen below that are the electrodes numbered one through 16. Again, I want to direct your attention specifically to electrodes nine through 16. What you'll see here, when you look at these, is at the appointment we're referring to, as well as the immediately preceding appointment to that those impedance on electrodes nine through 16 had reduced dramatically from what they had been in previous appointments.

Now, I think it's really probably most important to note here that despite that drop in impedance level, these values, the absolute values of the impedance, still fall within normal limits. The cochlear implant software did not flag these electrodes, electrodes nine through 16, as being short circuits, because they are technically, those impedance levels are still within normal limits. But you're going to see, as we continue that drop, that significant drop that we saw across time is actually an indicator for something else going on. That is not something you would want to see. When we look at impedance in the right ear, we see some interesting things going on here as well.

When we look at impedance in the right ear, similar to what we saw in the left here, some of those electrodes that impedance has dropped in a meaningful manner. Here we're looking at electrodes one through four where that impedance has dropped pretty substantially from previous appointments. But then in addition, on electrode nine, our impedance now has significantly increased from previous appointments. Just like the left ear. None of these absolute values of impedance have crossed the criteria or the indicators for what this software would flag as a short circuit if it was low or an open circuit if it was high.

But this is a meaningful change. Previously I had used the word significant, and I probably shouldn't use that here because I don't have error bars. I'm not talking about stats. So I should probably be using the word meaningful rather than significant. So when I use that phrasing of meaningful change, I'm really meaning that it's a change that should alert you to look for something going on or something going wrong.

Okay, so when you see that change of impedance, either that drop where it's like a halving of impedance. Or the drastic increase in impedance, that's usually an indicator that something on that internal device is not functioning the way that it's intended to function. Since it was a. They had moved away from our clinic for a bit of time. I did treat this case somewhat like a second opinion case when they came in.

When I see second opinion cases, I always start out by getting a collection of what they're walking in the door with before I make any changes. So, in addition, we checked the cochlear implant thresholds in the sound booth. Using sound

field presentation. What you see here are responses for the right cochlear implant and left cochlear implant independently indicated by the s sub l and the s sub tinnitus. What we see across here is for the left cochlear implant.

We're seeing responses between about 25 and 35 in the right ear. However, please note that there's only responses that were obtained at 501,000 hz. No responses were obtained at 2000 and 4000 hz when we found this result. This is a third indicator, if you will, that something isn't right, something isn't adding up. Because with a cochlear implant threshold should be between ten and 30 decibels.

Unless there is an explained reason, right. This person has known, known poor neural integrity. Or they have some diagnosed condition that's leading to poorer thresholds for this particular case. Again, since they had been at our clinic in the past. I could look at this and know this was a meaningful change.

When he was previously at our clinic, his thresholds were in the ten to 20 decibels range. So even those thresholds that are in the 25 to 35 range, technically, those are still in that normal range. That is a meaningful reduction in thresholds of meaningful, poorer regression and thresholds than what we had previously observed with this client. So when we see these things, these really are indicating concerns for the integrity of that internal device. Specifically, when we are seeing changes in performance that we can't fix through programming, we are seeing that reduction or the absence of cochlear implant thresholds, and we're seeing those shifts of impedance.

That indicates to us that we need to be evaluating for the integrity of the device. When we think about those specific red flags or indicators for a cochlear implant, in internal device failure, there are some red flags that are viewed as, if you will, more common, those are things such as the patient coming in and reporting a popping sound, followed by no sound through the external equipment, despite troubleshooting and changing out that external equipment. Right. That's a, that's a kind of an obvious one. A second obvious indicator for a failed internal device is that despite troubleshooting and switching out that external equipment, your cochlear implant programming software won't recognize or read the internal device.

Those are two pretty obvious indicators of an internal device failure. Two less apparent, maybe less well known indicators of a failed device that we saw specifically in this case were those changes of impedance, impedance levels that changed by more than half from the previous measures, meaning they reduced in impedance by more than half, or they doubled impedance from where they were without having that be able to be explained through a meaningful change in wear time. So for this kid, his wear time hasn't shifted at all. So there is no explanation for why those impedance, impedance would change the way that they did. A second more subtle indicator of an internal device failure is that those aided sound field thresholds with the cochlear implant are elevated or absent.

And when I'm talking about device failure here, elevated means that those thresholds are substantially high, right? So we're seeing thresholds of 70, 65 decibels, plus those are going to be indicators of that device failure. In this situation, we did have that internal device failure bilaterally, confirmed by the cochlear implant companies rep. They have been scheduled bilaterally for explantation and re implantation, which is where the referral here comes into play. So, if you recall, I said, we don't have a surgeon on site, so we send them to surgeons in the regional area for this particular kid.

The surgeon who he saw for his original plantation is no longer in our area. He's moved to a different area of the country. And so we needed to identify a new surgeon for them and identifying that surgeon who's going to be high quality for them, given the complications that occurred at the initial surgery, as well as the patient's family's nervousness about having this device failure. And so it really was a group effort, deciding and having that conversation with the family about where they are comfortable going, what their travel radius is for getting to that surgery, as well as having access to an expedited surgery so that we can get this kid activated in time before school starts in the fall. So when we look back at this, really what I want to stress to you as some takeaways, is don't discount changes in results.

If you are seeing a shift in your validation testing, your thresholds are getting poorer. Your speech perception tests are getting poorer. Don't discount those. I always encourage our students to question those, find the answer for why that change is occurring. You want to find the answer.

Maybe it's programming, maybe it's a device failure, maybe it's a shift in the cognition of the patient. Whatever it is, question it. Try to figure out the why of why that's occurring. If it doesn't add up, continue to question the why until you have it figured out. Working with pediatric patients, really, you have an immense honor and responsibility is being a pediatric audiologist, and we want to be sure that we are giving them the best access to sound possible that's going to be relevant in a later case that Liz de Velder is talking about.

Giving them that optimum access to sound is one of our priorities, and we need to make sure that we are doing well in doing so. Thank you so much, Jess. Such an interesting case that I think really has some meaningful impact for this child. So I'm excited next to introduce Sammy, and she is going to be giving us a case on questioning. Sammy, I will turn it over to you.

Yes. So I'm going to be talking about a case that left me with a lot of questions. So my patient was seen at an off site clinic for an audiologic evaluation. It was an eight year old. He was nonverbal.

We originally did an OAE screening, and he did fail that, and he did have as timps bilaterally. So results. We attempted to do CPA with him, but I personally felt like the patient was not conditioned to the task. And even with that, he did not like having the headphones on, that he just didn't want them on. So we could only get results in one ear and we got thresholds at 20 decibels.

But again, I don't believe those were his actual thresholds, just because of the unreliability. And the CPA just didn't feel like he was actually conditioned. He just knew we wanted the task done. But the problem then was that the audiologist I was with didn't want to listen to my opinion, even though I had strong opinions, that I didn't think the CPA was right and that we weren't actually getting real thresholds. The audiologist didn't think that was important and didn't think we needed to move on to an ABR to get the parent's results.

But the parent came in specifically wanting results. And I think that's where this really led into a problem of we gave the parent nothing. But as a new professional or a student, it's hard because how do you approach the professional when they're not using the current evidence and not listening to the supportive ideas that the student and new professional are also giving? And

then how does a new professional or student know if the practice is doing something, are not using current evidence? We're very newly in school or very newly out of school, and I think it's important to remember that students and new professionals also have correct evidence and to listen to them.

So where like a new professional or student can go to find if a practice is out of current evidence, we always have the professional organization websites, the professional organization ethics or practice boards, the state organizations, and then state licensor boards, which you can find all the current evidence and to determine if that practice or the audiologist is using current evidence in their practice. So the main problem and biggest thing is that the mom came with a lot of questions, but we gave the mom no answers and that feels wrong. But when being a student or new professional, you don't necessarily have everything that the audiologist designed you to listen to. And that's hard coming out of. And I think I specifically would push to give resources to that mom who came in wanting something and then got nothing because no parent wants to leave with no resources when they came asking for an answer.

And I also would talk with the supervisor afterwards about sending information to the parent now or even getting them to come back and do additional testing and then also talking with the supervisor about results and attempt to learn about their clinical judgment and see where they're coming from before jumping on the board of no, they're doing absolutely the wrong practice. I think it's important to keep in touch, like and talk with that supervisor about why they did what they did and why that's what they wanted to do. Thank you so much, Sammy. You know, I think you really hit on some of those, those things that as a new professional, as a new student, it's really, you know, a hard, a hard position to be in. And, you know, I'm sure, I'm sure we'll have more questions for you at the end.

Next, I get to introduce Jennifer Phelan and she is going to present a case on investigating. Once again, kind of at the end, I'm sure we're going to kind of circle back and have more of these questions and more things to talk about. So, you know, keep thinking about how these all fit together. But Jen, go ahead and take us on investigating. Yeah, I will.

I'm actually just going to make a quick comment about Sammy's as well. And as the individual who helps with outside sites, I think it's really important. And I love that Sammy presented because I think it's great for all of us to think about when we do support students and new professionals that they're coming at a place of being inquisitive and investigating. And so, you know, being able to really talk with them and see their questions as wanting to get more information, which I think is great. And so I think I appreciate Sammy thinking about that because we always walk away from, you know, appointments and you'll see in this example, I did that too.

We walk away from appointments and think I, what would I do different? What could I improve and how can I make sure that my patient care is the best it can be? So I appreciate Sammy coming at that from a student or a new professional perspective. The case that I'm going to talk about is a reflective case for me as somebody who is thinking about students and thinking about education. I think a lot about my practice and we talk a lot about reflecting.

And so the idea that in reflective practice that helps us to get better, that's what helps us to really hone our craft as audiologists. And so, you know, thinking about what could I do? What could I do differently. So even though, you know, I've been practicing for over a decade, always thinking about what could I do differently, how can I help the patients and families that I'm working with. And so I think about that a lot.

The students I work with sometimes get a little sick of me asking about how they would reflect. But by doing it early, we can keep doing it in our practice, and I would encourage all of you to do that. And that's really where this case comes from. As a pediatric audiologist, I see lots of children who have been referred by pediatricians do for a variety of reasons. There's concerns for speech delay or there's concerns for.

Sometimes you just get concerns for development. Right. So in this case, I saw a two year old child who was referred by their pediatrician, and the referral was to rule out hearing loss due to concerns for development. So that's all that we knew. As Doctor Messersmith said, we are not affiliated with a surgeon or an ENT office.

And so when we get those referrals in, we just kind of get some of that basic information. When we had the family, we contacted the family. We had the child scheduled, and so we sent them an intake. And that intake, the family reported that the child had passed their newborn hearing screening. There wasn't a history of chronic otitis media, ear infections, no history of PE tubes, anything like that.

And then there was unremarkable pregnancy and delivery. As far as we saw on paperwork that was completed by the family prior to coming in, there weren't any big concerns, red flags, anything that they noted of concern when they did come in that day, the parent report was that they didn't have concerns for their child's hearing. The parent who brought them in specifically made a comment saying, I know everybody's telling me there's concerns for their speech and them communicating, talking, but the comment was, my husband didn't talk till he was five, and he's okay. They were not the first child. They were a second child in the family.

And so it was also, well, older sibling goes ahead and can talk for them and make sure that they're getting what they need. And there wasn't parent concern. The parent was responsive to and respected their pediatrician. They were there. They went through, they came based on the referral.

They were doing their due diligence. They just really didn't have concern. And that was really apparent in talking with them. We're here, we're going to do what we were asked to do. We're going to do it because a professional recommended we do, but we don't really see anything and we don't really have any concerns.

And essentially our child will get there, right, and they'll get there and they'll do what they need to do in their own time was kind of the approach that the parent was taking when we met them and we discussed. So we did our testing and testing. If you work with kids and you do a quick scan of this, you're not going to see anything really crazy. In terms of results, otoscopy was unremarkable in both years. We did tympanometry.

We had ear canal volume, tympanometric peak pressure, static compliance. All of that was within normal limits. We had type a temps for both years, completing otoacoustic emissions. So making sure that with tympanometry and otoacoustic

emissions we're getting some of that objective information. Before we put that kid in the booth.

We have those present bilaterally, 2000 to 8000 hz. So nice present own acoustic emissions. And then for audiogram we focused, oh, there was a typo 500 to 4000 hz within the normal range in both ears. So we didn't just get two, we did get four in both years. Essentially in testing, no frequency was lower than 15 decibels.

Using inserts and testing via VRA, we did mark fair reliability. They are two year old and so, you know, a little bit squirmy. We were able to condition, but there just was, you know, conditioning to that, to that task or being really interested in that task for a long period of time or to be able to get all of that information. We did, we did have fair reliability on that test with SRT. We did get 15, we got down to 15 decibels in both ears by pointing to body parts.

And so that helps. That's good in that we were able to condition, they were able to complete the task we needed them to complete, to be able to get thresholds on our audiogram. And then we were also able to have an SRT, having them point to body parts. So from thinking about a language component, communication component, being able to get receptive information. And so that's a good thing.

All of this is within the normal range. Nothing crazy, nothing outside of. Outside of the ordinary. Outside of the ordinary there. And so if we just take a look at what we know, right?

So we did our test results. We also know that the physician had concerns. This pediatrician sent the child to us for a reason. We don't necessarily know the reason. We can make an assumption and say likely it was based on questions that were asked during a well visit, potentially a questionnaire that was completed during the well visit, their observation of the child.

So there was concern for the physician to refer. We know that the parents don't have concerns. They are there because they were referred and they're going to do their due diligence and do what was asked of them, but they really didn't have concerns for their child's development. And then our audiology testing was

within the normal range, which is great. That's what we want to see where, you know, they did what they needed to do.

They let us take the measurements we needed. They complied and were able to condition for VRA and complete that SRT task. And so all of our audiologic assessments were within the normal range. And so you might be asking yourself, so what's the problem? Right.

Then why are we talking about this case? And if we talk about the kind of title is investigating, we could be done as audiologists. If we think about, well, our job is to test hearing and determine is it within or outside of the normal range? We've done that. Hearing is within the normal range, both ears.

And so we could say, yep, hearing is good, we're done. And so what's the problem with this case where we're sort of going with that? And if I think about that reflection piece and how we potentially can investigate more where I get to this case, and I think, gosh, where are some of my concerns? I think about the observations that I had in working with this child. I discussed with the family concerns regarding expressive language.

So receptive language I wasn't concerned about. They were able to follow simple directions. They were able to point to body parts for me to get SRT. But in that appointment, expressive language was a concern for a two year old. There was very limited verbal communication, and that's what was expected of them.

There wasn't anything, there wasn't a different form of communication that would be expected. And I noted some real specific things in talking with the family, such as some really great contact gestures from the child, meaning to be able to communicate and to be able to get their needs met. In this case, the child picked up their water bottle and they handed it to their parent, and then they put the parent's other hand on the top of the water bottle. So they were communicating. That contact gesture is very clearly, hey, I need help.

I want you to open my water bottle. And the parent did this. This happened during case history, and the parent complied without really skipping a beat, right. So the child handed it to them, put the hand over the water bottle. The parent opened the water bottle, handed it back to the child.

So this was a communication between the child and their parent. And again, like I said, it was very comfortable for them. It was clearly something they had done. Often, you know, when asked, how does the child request? The parent said that they often will bring them either the thing or bring them to the thing that they want.

So these great contact gestures that are communication, the child is getting their needs met, but that's not the type of communication we would expect from a two year old. And so at that point, we would expect them to be asking questions, to be making requests, verbal requests. And so we talked a little bit about those expressive, the expressive language. The parent was indifferent, and I don't mean indifferent in a negative way, but they didn't have concerns. And as another professional, seeing this child and recognizing that there were delays, that there were concerns with the language component, that's something that, as a pediatric audiologist, I want to be sure that I don't just say, okay, yep, we're done.

I did my testing, and we'll move on from there. Referring back to the pediatrician absolutely would have them go back to their pediatrician. I'll send, you know, I send my report along to the pediatrician, but, but also recognizing that they don't have, there wasn't this feel of a mutual relationship where the parent necessarily felt much of a connection. Right. The pediatrician was a professional.

They were going to follow what they did, but at the same time, not necessarily this connection, or maybe thinking of that pediatrician as that medical home piece. The problem that comes up for me is where does professional responsibility come in to? So as an audiologist, I did the testing. I have the test results. I can give those results back.

But we are more than testers. We are not just technicians who get information and relay that information back. We are professionals in our own right. And so when I think about, you know, this case, I think about the professional responsibility. I think about having.

As audiologists, we have a unique, unique set of skills and knowledge, and we have professional ethics where we know how we should work and how we

should behave. And we want to be sure that in our practice, we are employing all of that. We have a scope of practice that is more than completing some assessments and writing a report and moving on. And so within our scope of practice, we have to think about what is our professional responsibility to our patients and to their families. And again, as a pediatric audiologist, I think a lot of what is my professional responsibility in ensuring families understand what their next steps could be or should be, or making sure that they have all of the information necessary to be able to make an informed decision in working with and making decisions for their child?

Well, when we look at the test results, not necessarily a problem. These were some of the observations and some of the things that came up for me in this case. When I think about that, I think about what could I have done differently, what will I do differently in the future? One of the big things that really came up is screening. We are in a profession where screening is huge.

Talk about newborn hearing screening, the importance, the impact. A lot of us have done education on making sure that other professionals and that families understand the importance of newborn hearing screening. We know that screening is intended to identify a person who, or a child, in this case, who would be at risk. And for us, it's at risk for hearing loss. If we're talking about different screenings, it would be at risk for concerns, for language or development.

And so I encourage us, and when I reflect back on it, I think to myself, taking that concept of screening and how important we put that on newborn hearing screening, and thinking about within our scope of practice, what other screening can we provide as audiologists to ensure that we're providing quality care for our patients. And so, when I think about screening in a case like this, I think about the opportunities that audiologists have to be able to complete both language screenings and or developmental screenings. And so what I've listed here is, I've listed two different language screenings and two different developmental screenings that audiologists absolutely can complete and get pass or not pass information to be able to be sure that we're making referrals, appropriate referrals. Based on the screening results, we get a, a little bit of backgrounds if someone is unfamiliar with these. The PLS screening is for children birth through seven.

It takes about five to ten minutes to administer. It is an administered screening. So both the PLS and the self are administered screenings where the audiologist would go through, would go through the screening with that child. These are criterion referenced assessments, so they're not norm based. Essentially, in these questions, we're looking at what is a predetermined criteria that would be expected, giving the items on the screening and then being completed and thought about during the performance, the performance criteria.

So, and somebody did just note to me that I didn't have screening on there. So, pls and self are diagnostic tests in and of themselves. This is specifically talking about. This is specifically talking about the screening aspect of them. I will say that the nice part about the screening aspects is if you complete the screening and it is a not pass and you do refer, if your screening does get to that professional who you're referring to, which would be a speech language pathologist.

In these cases of the PLS and the self, they can use those results within their diagnostic pieces, which is a really great interdisciplinary piece that we can work with. And so the PLS and the self are language based screenings. I said PLS is birthed through seven. The self is five through 21. The self does take a little bit longer to administer.

It's about 15 minutes. But it also is one of the only standardized screening measures available for older school age children. So we, when we see kids, we often think about those, the littles and the younger ones. But we do have screening tools, schools for older school age children as well. There are also developmental screenings that are available to us.

There's the ages and stages questionnaire. This is a parent report, parent report to screen for general developmental delay and delays in at risk populations. So this is one where it doesn't have to be administered. It is a questionnaire given to families. It would take them about ten to 15 minutes to complete, and then it just takes a few minutes for a professional to score it.

And as it's scored, there is a cutoff. And if they fall below the cutoff, then that child would be referred for further assessment. Further assessment is then recommended for them. It looks at delays in multiple areas, not just in language.

It looks at communication, gross motor, fine motor, problem solving, and that personal social realm.

And so by being able to complete a questionnaire like this, it takes that whole child into consideration. The final one I have on here for developmental screening is specific to an assessment for autism risk, and it is the modified checklist for autism and toddlers. There is a revised version, so this is known as the MCHat. This is also a parent report screener. It could be used from 16 to 30 months.

Parents complete this. It's actually widely available. Parents could even. Can easily find this and do even complete this online. But if there are other concerns outside of language, then this would be something that, again, within our scope of practice as audiologists, we would be able to complete and make recommendations from there.

Things sometimes we think about, and I know this happens in other aspects of ideology, thinking about, you know, screening for cognition and things like that. It can be daunting and like, oh, what. What do I do? What if, right, what if, how do I. How do I talk with families?

And I think it's really important for us to think about it might be, we might be nervous in the beginning, but again, we have that professional responsibility to ensure that we're looking at our patients. Yes, absolutely. Looking at their hearing. That's our, that's our, our main job. Right.

Our main goal is to look at hearing and work on treatment if hearing is outside of the normal range. But where else, what other professional responsibility do we have? And so one of the things that I talk about and I think about is how we can look at both language screening and developmental screenings to be able to support families, to be able to make the best decisions they can, and then also making referrals, having a good referral base based on those screenings so that if a child doesn't pass the screening, we have a next step. We know where to, we know where to send that family. So in reflecting on a case that seems pretty straightforward, I wanted to, you know, talk about and be sure we always think about what, what else is there, what more can, what more can we do and how can we inform our practice even more to support families.

Thank you so much, Jen. You know, I think that you really set us up for, you know, what can we do and really set up for our next presenter as well? You know, I'm really personally excited to bring Liz Develder into this conversation. She is our speech language pathologist or one of our speech language pathologists here at USD. I'm going to say another plug for appropriately referring, and that's kind of what she's going to be talking about.

She is definitely a great speech language pathologist and one that I actually refer my own children to. So she, she is here to talk to us about support. Thank you very much, Lindsey. So, yeah, I'm the token SLP right now on this, but I'm learning a lot, and I hope that I can pass some of that on to everyone else as well. So I am very fortunate to have recently become a member of our South Dakota EHdi, the early hearing detection intervention team.

One of the new directives for the EHDI program for the next grant cycle and such is to track language milestones in the kids that have a difference in hearing levels and to then start looking at what's going on and what we can do for that. And so, like I said, I'm fortunate to become a member of that team. Recently, I have been part of some interesting conversations, learning what we're doing in our state, national conversations, what's happening in other states, and it's been new information to me, and I'm hoping I can pass on a little bit of that and just that perspective of language as we go. So I, this is totally a made up case because we haven't had this, and hopefully this is, but it reflects a lot of the individuals you've worked with if you've been working with peds. So we have Jesse.

Jesse's five months old. They didn't pass their newborn hearing screen. Everything was good as far as our EHDI timeline, they had a follow up. Unfortunately, they did not pass that follow up. They were diagnosed with bilateral hearing thresholds that were in the moderately to severe range at three minutes or three minutes.

My three months, they were appropriately fit with those, with hearing aids. Those hearing aids are working. They're doing really well. Cis might be appropriate down the road. You know, all of the audiology things are good on track, everything like that.

And the audiologist did a great job of referring to the state's birth to three program. And I do know it's different by states on kind of who's following these kids in that it could be Edda is making that referral or that audiologist, but we have that. And then, of course, that audiologist is doing a great job of putting those follow up appointments on the calendar and making sure that we're going to be checking or that you, as audiologist, is going to be doing everything that needs to happen for Jessie. So what do I want to talk about? Right.

What happens with that birth to three referral? And this varies greatly by state, and even, like, my assumptions in our state were even different. And so for you to just stop and think, what happens when there is that birth to three referral? Do you know the process that happens because maybe you're missing a step or you are not aware of a step. Oh, by the way, points to ponder.

As a speech pathologist, I love alliteration. So that's why we have this points to ponder. So think about this yourself. What happens, do you know what happens when there's a birth to three referral? Do you know what the qualifying criteria is?

Is for birth to three? I was surprised. In our state, they flat out said, if there's a diagnosed hearing loss of any level, birth to three kids qualify for services. And I was like, okay, then why do we have a problem getting them through the hurdles of getting enrolled in the program if everybody qualifies? And so one thing that we talked about is, would it be faster if that audiogram is attached to that referral to make things go faster?

So what do they need to qualify for services? And then are there other resources that you could put them in contact with? What does birth to three open up? Like, are there a lot of other referrals made from birth to three, or are you the one that is left to make those referrals? And again, this is going to vary based on person or based on where you're living, based on just how your practice is and how things work.

But can you answer all of those questions as you go through some more alliteration, some things to think about? I want you to really realize how your position is so influential. Just like we know they're pediatricians. They have this

great relationship, hopefully with their pediatricians, but also as an audiologist. Yes.

Unfortunately, maybe you're giving them what they might consider not great news about that hearing level, but you are that contact right now. You've become this person. And I have to say it is so inspiring to hear families talk about the role that audiologist has in their family and how that audiologist has helped to support them. Unfortunately, sometimes I hear other things, too. And so that's why we want you to be that audiologist that is an important contributor to the development of that child.

And so what message did you leave with that child? Obviously, you're going to talk about that hearing that you just fit them with. You're going to talk about the importance of wear time, all those things. I mean, those, as a speech pathologist, that's you. Like I say, what did audiologist say?

And I support what it is you have to say. But then I want you to think about what do you say about early intervention? And remember, Jesse's five months old and that's young. But you know, how important is early intervention at that point? And what do you say about their speech and language development skills?

Perhaps you're like, oh, we don't need to say anything. They have hearing aids. They're fit appropriately. This is great. And I'll tell you that's the wrong answer.

Also, you might say, you know what? They're only, I have four months there, but they're five months old. They're only five months old. Like they're not talking yet, so we don't need to do anything. And again, that's, that's the wrong answer.

And I hate to always tell people you're wrong, but in those cases, I really do hope that we can make a big change there. So a couple things that help to support what it is we're talking about here. We need to have early intervention started before six months of age. And honestly, the earlier the better with things. And so a couple pieces of information and you can look into this even more if you wish.

But the joint committee on Hearing, Infant hearing in 2019, which is their most recent position statement, states that those infants that are identified early,

those infants that start early interventions earlier, have better linguistic outcomes. And let me also back up early intervention. This could be specifically a speech language pathologist, or it could be some type of other birth to three provider. You know, so it might be that there are other types of providers, but right now, all of this information that they're looking at is kind of lumping everything in together as early intervention. And so those infants that are getting early intervention are doing better down the road.

And that joint committee states the earliest possible start is best practice. And so you should refer immediately at diagnosis. Even if they're five and they're not talking yet, because other five month olds are not talking, you should still make that referral immediately. Ohio and Cincinnati children's, they have been doing some great tracking with kids, and so they've got these databases of kids that they're following and looking at early intervention. And so, so what they're finding is that kids that were receiving early intervention before six months of age have higher literacy scores, the reading scores on a lot of the statewide assessments than those that are after six months, that are receiving the early intervention after six months of age.

They're dividing it out based on types of losses and different things, but it doesn't matter. We're seeing a huge difference with just them receiving those services before six months of age. They've had the studies out that show those differences at preschool. And then just recently, they were able to look at third grade literacy scores and seeing a difference there. And again, they haven't quite drilled down to, like, were they wearing hearing aids or cochlear implants or those types of things.

But in general, we're seeing differences. And so we want those early referrals. And even then, we're looking at them going, okay, but they're five months old. What are they doing? And so I just want to take a moment for you to realize all of the communication that does happen, the communication skills.

Jen mentioned that in her case, her kid was requesting that water bottle to be open by taking the water bottle open and taking the parent hand and putting it on the top, that communication, I mean, that's communication, as she said. And so we want to encourage that and really be looking at those things. And so some of those early skills when we're thinking really little joint attention is just

attending to the same thing. We start that early on when that kid is in that seat, and you put the toy keys in front of them, jiggle them and go, oh, look, you have the keys. We're forcing this interaction, but we're teaching them, hey, we can be paying attention to the same thing.

And as an adult in the situation, when those kids start to, like, focus on something, we then focus on that. And so that's an important skill, emotional reciprocity. If one kid's crying in the room, then everybody's crying in the room, you know, they start to pick up that that person's feeling this way. I can feel that way, too. Remember, our voice carries a lot of our emotion.

And so having those kids arounds that and hearing that emotion or sensing that emotion, we should be seeing those skills starting in as well. When they're really little joint referencing. Like I said, we kind of start with this joint attention by putting the keys in their face. But we are going to start noticing what they're looking at. And so what they're looking at, we'll start talking to them about what they're looking at as if they were referencing it as a, if I look at something and just make a comment of like, oh, I like that.

You know what I'm talking about because you can follow my eyes to that. And so our eyes are really our first point. But then kids will learn a point to point to things, so we want to see those skills coming as well. And of course, turn taking. Turn taking starts with just the smiles, you know, back and forth.

It starts with flirting eyes when, you know, the kid looks up and then looks down and looks up and looks down, but then it moves into speech patterns. Patterns and those types of things. And, and of course, if a child is signing, if they're in a home where they're looking at signing, the turn taking is happening with the sign and as, as well. And then vocalizations or signs. What noises are they making?

Are they making some of those sounds? Are they being reinforced for those sounds and encouraged to continue those? We, like, look at those babies and we want to see those skills happening. But we also need to do parent training and work with our parents because those kids need to be in an environment that's providing a lot of language opportunities. And so training parents, talking to parents, how do you interact with your child specific to their hearing levels and their amplification and or not amplification?

What would be best for that child as far as working on that communication? So they have that having an enriching environment, what's arounds them, the books, the toys, the talking, all of that add to it. We might have some complex kids. Maybe there's hearing is just one little piece of their puzzle. There's a lot of stuff going on, and there's been a lot of hospitalizations that has been, you know, we've known that to cause parents to have a little hesitancy on how do I interact with my kid.

And so we need to be considering that as well. And just a note, because I will say it all the time, you know, our tv, the screens, the apps and all that, even when it says, this is great for infants or babies, you know, and that the problem is that a lot of that is very passive and, and it's just sit back and bring it in. And we know we learn when it's active, when we're actually doing something with it. Just passively sitting there and taking information in is not going to create learning. So helping our parents to understand the extra importance because of that hearing loss to, to do those things.

And then as, as Jen was talking about, that continuous monitoring and perhaps screenings using those checklists and those screenings, you are in a perfect situation to be seeing that kid often, that infant and that family. And maybe the first time you brought this up, they were like, okay, my kids, three months old, four months old, like, okay, you know, I know they said this, but I'm not going to follow up. But then when you see them for a follow up, ask, like, are you receiving early intervention? Have you done this? Like, where are we at?

And maybe you do need to pull out some of those checklists and things like that. And so, you know, the case of these little littles is that we know there's a concern down the road, and if we can do so much more early on, we can prevent that rather than, you know, always playing catch up as we go. And like I said, you are in a wonderful position to provide that information. And so what do you do? Check into what your state process is.

Like, what happens in your state? Who makes that birth to three referral. What happens after a birth to three referral? Make and support those referrals. And so, like I said, birth to three.

Are there deaf education programs? For example, in South Dakota, we have South Dakota services for the deaf. Birth to three does not actually work with South Dakota services for the deaf. I was blown away by that. It has to be the parent saying, we want South Dakota services for the deaf involved, the speech language pathologist having that referral in there, and then, of course, parent support programs.

I think this is the one where in my, in recent here, how impactful that is on parents that they've shared with me, um, and finding that other kids. South Dakota is a rural state. We have many rural states. Um, this family might feel like they're the only one with an infant that has a hearing loss. And so making those contacts again, find out.

Does birth to three make those contacts? Or should you be the one that's saying, hey, you can also reach out to. To whatever parent support programs are out there, and then, like I said, every time that child comes in, check on those milestones, make those referrals as they're needed, and continue to do that is really the important piece to that. Yeah. Thanks so much, Liz.

I really appreciate all the information that you provided us, and I make. I've realized as we put this together, we put all the pediatric people first, and so that it's nice to kind of wrap up with, well, then who are we referring to and what do they kind of expect from us? So. So, thanks so much. So I am going to shift a little bit of gears and move on to some adult referrals going.

Moving on to Gabby, who, like I said, is currently doing her fourth year at the VA, and so she is going to talk to us a little bit about resting. It's just her case. And so, like I said, we're going to pivot a little bit more into referring for adult patients as well. So, Gabby, if you want to, go ahead and take it away, as doctor Dorgensen mentioned, I am the fourth year student on this panel, and I'll be pivoting away from that pediatric theme that she mentioned and talking about the other side of the lifespan. The patient I'll be talking about is who I've named, Mister Brightside, because throughout this appointment, wherein I met him, he was going through a lot in his life, but was always staying on, like, the bright side of that situation.

So with Mister Brightside, I saw him on an off site VA rotation for an audiologic evaluation. We had seen him before, but it had been since 2020, so it had been a few years. At this appointment, he was accompanied by his wife of over 50 years, and he is a primary caretaker of her as she was diagnosed with dementia about a decade ago. When Mister Brightside came to the clinic for the appointment, he did share that his wife would need to be with him throughout the appointment, as he didn't have anyone that could watch her during the appointment. So once we were able to reconfigure our sound booth, we were able to get our appointment started.

And while we were all in the booth, together, I was able to get to know my patient and his wife a little bit more. He had shared that it had been a difficult few years between aging and taking on an unexpected caretaker role. It also didn't help that over time, his wife's condition continued to deteriorate, that dementia continued to get worse. We also caught up on some audiologic factors of how he felt his hearing was and how he felt his hearing aids were working. And once we were able to conclude that portion, we moved on to the evaluation.

So through our audiologic evaluation, we were able to find that he had a normal sloping to profound sensorineural hearing loss. And when we were able to present word rec, we found that when we raised it up loud enough, when we reached his PP max, he had excellent word recognition. So this is kind of a recreation of what that hearing loss looked like. So with all that information that we had gathered, we first spoke about some hearing aid options, and we ended up landing on oticon Rick hearing aids within ear mold. And as we all know, with ear molds come ear mold impressions.

And with this appointment, as I mentioned before, his wife was in the sound booth with us throughout the appointment. So what we had to do was do ear mold impressions while making sure that she was okay. And throughout those ear mold impressions, she was asking questions which, while having that impression material in both ears. So we were able to work arounds that and were able to get those impressions as we needed them and follow that. Following those ear mold impressions, I was speaking to the patient and he shared with me about how hard it has been since his wife's diagnosis.

She had quite a few appointments. He even pulled out his appointment book and was showing all his different appointments that he had to be at for her. And he did share that he had limited support, and he mentioned that it had been getting very overwhelming. And whenever I have a patient in this situation that is talking about how overwhelming life is, I'm always prompted to ask, do they feel like they are supported? Do they feel like they have the supports that they need to be able to succeed in their own life and their life as a caretaker?

In this situation with this patient, he did share that he is receiving some supports through the local hospital and that they have helped. But even with those supports, with his limited support, he still feels overwhelmed. And one issue that he shared with me was that when he has his own appointments, it can be difficult because many times he doesn't have someone to watch and support his wife, which then means it's hard for him to take care of himself and his health. And another factor that he did share with me is that he is in a place where many aging Americans are in. He doesn't qualify for Medicaid, but is not able to pay for the rise costs of assisted living facilities for his wife.

According to the National Council on Aging, assistive living facilities in the US on average, cost at least $4,500 per month, or about $54,000 annually. So that leaves him, my patient, and many other Americans in a difficult situation. What do you do when you are the caregiver of an aging individual with some high support needs, but you also need to ensure your own needs are met?

So during this appointment, when I saw this family, I didn't have an answer of what supports he could provide or he could receive. And if I could do it all again, I would have been more well versed in the services that my area at that time offered specifically respite care. As if you are seeing an aging population, this may be a service that you as an audiologist could recommend. And with respite care, what this is is a short term relief for primary caregivers. This can occur in many different settings.

It could look at, it could be in a home or in a healthcare facility. It could be in an informal manner where a friend is taking over for the caregiver so they're able to get a short break. Or it could be formal respite care in a facility and with respite care can be tailored to the individual that they are serving, but could include companionship, meal preparation, or more. One study that I looked at when it

came to the efficacy of respite care is that when provided, respite caregivers showed a significantly lower role strain and a lower burden on social and family life. So how can we, as audiologists or audiologists students refer or kind of suggest respite care for our patients?

And the answer is, like most things, it truly depends. Qualification for receiving respite care can depend on the situation our patients are in. But one way that we can kind of determine who among our patients could be a good candidate is by looking at the Medicaid qualifications in your state. So, for example, right now I am in Missouri for my extra. So I ended up looking at what's available in my area.

My Medicaid qualifications for respite care include one many eligibility points, but one that I specifically pulled was whether they are found that they have impairments and unmet needs that would require admission into a nursing facility. If respite care and or other waived services were not provided provided. So in simpler terms, if the caretaker did not perform the tasks that they perform every day, would the person with a disability need to be admitted into a care center? If yes, then the caretaker could benefit from using respite care. With respite care, it is an amazing service that aging individuals can use, but with this, how can our families and our patients pay for it?

When it comes to resources regarding respite care, there are many different respite care programs that individuals can participate in and pay for, and I've kind of included a selection of those that I have found, the first one being a lifespan respite care program. So not every state has a lifespan respite care program, but for those that do, it can be a great opportunities for families to be able to pay for this care, especially for those who don't qualify for other public funded programs. Another resource that can provide respite care is Medicaid waivers or Medicaid state plans. With a state plan, that means that respite may be covered under your state's Medicaid plan without the need for applying for waiver. And lastly, another resource that is pertinent to my situation is through the VA.

So for those who are veterans, they are eligible for respite care services if they meet the clinical criteria for service and it is available. So with that, that kind of concludes my information about Mister brightside overall. I now know all of the

different resources that are available for respite care in my, and it will help me in the future as well. So thank you. Thanks so much, Gabby.

You know, it's always interesting to see how students, when they leave, hear the things that they learn that are beyond just audiology. So it's been really nice to see you as well. You know, when you're down in Missouri, we miss you up here. So I appreciate you talking. I'm going to get to talk next and last about spiraling.

I am going to give a disclaimer that I am going to discuss a little bit about some suicidal thoughts and ideations in this. And so I wanted to give that as a disclaimer as I move forward in this last case that, that we present today. So I'm going to call this patient Mister Bing. And I'm doing that because they had some, some tinnitus that they kept saying was pinging. So I was referred this patient for an audiologic evaluation from their primary care doctor.

And when reading the referral, as has been mentioned, we don't have a physician here on site so this is, we often get referrals from pcps and things like that. So the PCP referred this patient for an audiologic evaluation. Specifically did have an off site mention of tinnitus, but that did not appear in the initial information received from the primary care to be the reason of the referral. That doesn't surprise any of us that the PCP wasn't like, oh, this is why I'm referring them as tinnitus. Obviously, they were more focused on the hearing loss.

I am impressed that they referred at all, but the tinnitus was not the primary reason. Reason. The patient, when we did a case history, did report some difficulty in noise and then also had a revised HHI of ten out of 40. So did not seem to have a huge difficulty in noise or really with hearing. They did report, though, when we talked a little bit further, that their primary difficulty was with their tinnitus and that it impacted their.

They reported that it impacted their speech understanding, impacted their sleep, and their thi was a 60. So after speaking with them, I really did notice that the, you know, the primary reason of them probably seeking the appointment was more the tinnitus. So I was glad that they came, although they did report, as one would expect, that the primary care generally did kind of just blow off their tinnitus. I will tell you, I did cycle back to the primary care and gave them some information about tinnitus, but I switched the appointment to a little bit more of

an audio with a tinnitus conversation. And I will say that I always ask the question for any of my patients, have you considered suicide?

And I'm very specific about using those words, have you considered suicide? I am going to make a side plug. There is a really good audiology online on talking about suicide with your patients by Laurie Zatelli that I would recommend anybody go and watch to learn about how to talk about suicide with your patients. And so when we did this, we did our audio. Here is my audiologic evaluation.

He did have some hearing loss. You know, that doesn't surprise me, but, you know, hearing loss did not appear to be his primary concern. And then when we did the audio, we had 100% word recognition and quiet. It is our protocol, as should be most people doing some kind of speech and noise testing. And so he had a signal to noise ratio loss of a mild to moderate, or, I'm sorry, a mild loss in both ears.

So I am, you know, really will really will kind of move on with talking about how, yes, this patient's primary concern was tinnitus. And although, although we did talk about the hearing loss, that obviously was not their primary concern when we talked to them. We then moved into what we refer to as a communication needs assessment and a tinnitus discussion, and that was scheduled with them. So the plan for that communication needs assessment appointment was to actually talk about what are we going to do. Those appointments do tend to be a little bit longer.

And so at the time of the initial audiologic evaluation, they did not have time to continue with having that longer discussion about all the options related to tinnitus. So the plan is when they come back, typically for that appointment or during that communication needs assessment, whether that's at that appointment or at a future appointment, is to talk about what is tinnitus, what are some of the models and of the causes of tinnitus and the variety of methods that are available in decreasing the perception of tinnitus, whether that be, you know, more of your, your tinnitus retraining or some kind of neuromodulation or, you know, a variety of methods that, that we can utilize to decrease that perception of tinnitus. Additionally, during that appointment, our goal is always to do some kind of communication needs assessment related to hearing aids

when somebody does have hearing loss, as that is one of the methods of decreasing the perception. And once again, with all of those appointments, I always ask, have you considered suicide? So with this patient, I asked them that question at the initial appointment.

You know, is this something that you have considered? They said, not at this time. And so, you know, they cut the second time they came in for the appointment for discussion about their communication needs assessment, as well as the tinnitus discussion. And the first thing I always say is, this is not something that you've said. This is not something that you did.

This is something that I ask all of my patients, have you currently or are you or have you recently considered suicide? At that moment? He said, yes. And so I will say that this is when I, you know, the problem is there was no resources to walk them to locally. So I immediately kind of stopped the appointment from discussing what are we going to do about the tinnitus to that more pressing matter of what are we going to do about the suicidal ideations right arounds here.

We do have a few mental health professionals, but they don't accept walk in appointments. Appointments. We do have a student resource center that's primarily focused towards students. We also have a veteran resource center that's specifically focused toward veterans. This patient was neither of those things.

So I didn't have anyone that I could stop the appointment and immediately walk them to this patient also came alone to this appointment. And so there was no one that I could immediately get that was accommodating them to the appointment. So once again, I stopped the appointment as suicidal ideations were imminent. And so I really needed to address those things because there was nothing really that I could, I could do, and I didn't really, at that point, kind of know what, you know, my protocol definitely was at that point, I just knew that I was going to call the police. So the police did come, and they came in a police car, and they took this patient to the local emergency room either, and called the patient's emergency contact that is listed in our electronic medical record, as well as their PCP.

There have been some questions on, you know, can we. Can we call a PCP about something that's happening? And the answer is yes, absolutely can. When it's for continuity of care as well as something that is emergency. So that's definitely what I did.

I also called that patient's emergency contact. So, I mean, I think there are a few things that I wanted to talk about, things that I would have done differently. And the first thing is, I. That first appointment, when we talked about, you know, you know, kind of where are we going to go from here? And we need you to come back for that.

Communication needs assessment. They didn't leave with a definitive plan from that first appointment. And I, you know, looking back on it, it's possible that this patient spiraled themselves, you know, oh, my gosh, you know, that I, you know, we don't know what we're doing. We don't know what we're doing. Is there anything they're going to be able to do?

And looking back on it, and I've seen this patient subsequently after that emergent situation, and I, you know, I'm slightly afraid that that is something that I somewhat contributed to by not saying, when you come back, these are the things we're going to talk about. We will have a plan, but leaving without that kind of definitive plan and maybe next time, setting up that appointment and extending that same day appointment would be something that I would like to do in the future. I also did not know that it's possible that a patient, when you call the police, even for mental health concerns, that it's possible that they may put that patient into handcuffs for their safety as well as the safety of the police. This was not something I knew and something that I would do differently. Um, you know, this patient was not immediate threat to themselves or the police officers.

But the police officers did let me know that that is something that if the patient is of an immediate threat, that they. That they would do. I think that there's something to be said for the visualization of walking out of a building in handcuffs and being put into a police car. And so, you know, I think that that may have, you know, could have contributed to something negative. And once again, even though this person was not in handcuffs, they were placed into the back of a police car from our building.

And I did have, you know, people come up afterwards and say, oh, my gosh, is everything okay that went on at your building? And so I really, you know, I'm making sure that. That I did not know that, you know, that kind of perception would happen. I was more worried about the emergency situation. Additionally, because of, you know, the way that.

That things happened, they took this person to the emergency room and not to our psychiatric hospital. That was not something that I recognized was the protocol here at our police facility. So I have subsequently learned that in the state of South Dakota, audiologists cannot direct admit to a psychiatric hospital. And so I have. And if you do want to know, if you do have direct admit privileges within your state, you want to call your state mental health licensure board, the professionals that tend to direct admit.

And so I contacted them and questioned, you know, what. What would it take for me to be able to direct admit? And the AUD license in the state of South Dakota does not allow me to direct admit. And so I needed to figure out a way for in the future if this were to happen. I now have a relationship with local hospital providers for admissions to SARS psychiatric Hospital.

And so, you know, I think that that's something that I set up now for the future. And so now what would happen is that I would tend to call maybe an ambulance as opposed to the police, tell them that this person will have, you know, a psychiatric people ready at the psychiatric hospital, call the hospital and have that do a direct admit through the hospital hospital, because I've established those relationships. So I think that that's something that I would have done differently for this case because I did talk about suicide. I do want to talk about, say that if you or someone you know is considering suicide, here are some links. There's the suicide and crisis hotline.

You can call or text. 988. There is also the deaf or hard of hearing, deaf, hard of hearing, and people with hearing loss. 988, suicide crisis line. There's the veterans crisis line, which is 988 press one or you can text 838254.

There's also the Trevor project in which you can call 1866-488-7386 or text 678678. This is something that has weighed a lot on me as far as how do we provide those services for our patients, as well as, you know, how do we provide

things for people that are arounds us? I really want to thank you all again for attending today's. There's a lot of resources that we can have. There are things that we can't know.

Everything we need to get back to our patients if you need to collect resources, I think Gabby was a great example that where we can get back to our patients if there are things that we don't know and, you know, ways that we can change our own practices. Asking other audiologists, you know, we post on different places and just recognizing that we're all trying to be better and we're all trying to be better at what we do for our patients as well as ourselves. We are all amazing and at what you do. Those of you that see pediatrics are amazing. Those of us that see adults are amazing as well.

Those of us that see all the people. And, you know, while we're all we're trying to do is help patients. So we're all amazing at doing what we can, but. But know our limits, know when we can refer on. Once again, we really appreciate.

Here are the contact information for those of us that are here at USD permanently. The two students, we appreciate their time as well, and we would like to open the floor for questions. I have a few questions. I know we maybe have a few questions for each other. I know Gabby said she had a question for Sammy, so if you want to go ahead and ask that, but any of any questions, we'd love to hear those in the Q and a section down at the bottom of your scream.

I can get started with my question. So, Sammy, it seems like you've thought about this kiddo a lot. Would you have done anything differently at the time or later?

Yeah. So this kiddo is still on my mind. I think about it a lot at that time, I would not have changed what I did because there was so many emotions going on in the situation that I wouldn't have wanted to approach a supervisor and try to get answers because I know it wouldn't have gone well. But now, as I've been thinking about it, I think I would re approach the situation going in now with talking to that supervisor again in the current moment, asking, can we have this patient and this family come back in to be seen and potentially get an ABR just to give that parent any answers and give them a next step of where to next move on to if, just to rule out hearing loss and then move on and just give them

resources. That is a great answer in like what things that we can do differently as students and as new professionals as well.

Does anyone else have a question? I have a question for Jen. So Jen, one of the hard parts of being a pediatric audiologist is knowing what resources to use. Right. I remember being a beginning clinician and really struggling figuring out what screener was best for a certain kid or a certain age for you.

Where did you start finding the right screeners or where would you recommend beginning audiologists or audiologists less familiar with screeners start? I think the biggest thing is that continued learning. Right. We learn so much in our programs. We don't retain it all.

We don't keep it all. And so in wanting to again do due diligence and the best I can for my pediatric patients, it's really tapping into resources. Interdisciplinary, talking to speech pathologists. I tap liz all the time for questions. And that's where I go to say, here's what I need.

I know I can do this. I know it's within my scope of practice. Here's what I want. I want to be able to help these families. How can I do that?

What can I do? Being able to talk to SLPs, being able to talk to pediatrics nutrition, to be able to get those resources. We don't have to know it all. We just need to know who to go to to be able to get the information. And then we, and then we can apply it and we can use it in our practice since it's in our scope.

Great question. Any. I saw Sammy kind of raise her hand. Sammy, do you have a question?

Yeah. So misses Develder, how you talked about the birth to three and that process, and we have those resources, but what do we do when we get an older kiddo? Who do we refer to? What are those next steps that you would recommend? That is a great question.

Honestly, just having them go back to their school would be a good option because those services, if that child would qualify for services, they can get those services through their school. So telling them to talk to their school, talk to their teacher, find out that process. Or it could be that you have a list of private

practice SLPs arounds that you could make that referral to as well. You know, like anything it gets into, how do they qualify. How do they get funding?

You know, like, who pays for it? But hopefully, in your area, you can kind of know who your people are and call arounds and ask arounds and. And just like I said, stop and think about the process for your birth to threes. Think about that for your older kids as well. Yeah.

Gabby, I've got a question for you. You've got great resources for your patient and all of that. You clearly did a lot of looking for information. How do we find information? Like, what was your process as you did that?

Where did you go to find that information? So my searching process for this patient was difficult at times to find resources. So since respite care can be so broad and include many different formats, I personally found all the different types confusing at times when I was searching online. And if I, as someone who doesn't need respite care at this moment, for someone, finds it confusing, I couldn't imagine what it would be like for caregivers. So what I did find the most helpful was looking at resources that are on a national level.

So, for example, some of my key information from my part of the presentation came from looking at my local area agency on aging and the Arch National Respite Network and Resource center. From there, I was able to tailor my resources that I found for certain situations, like the situation I had with my patient. Another great resource is looking at your local Medicaid resources in your state and other communities. Overall, I learned so much information regarding the local respite care resources in my area that it's prepared me to know what I could do next time and recommend for my patients who are in similar situations. I agree, Gabby, you did a lot of work for this patient, but I really hope that you use all those for the.

For the future. I have a question for Jess. I'm going to caveat this by saying I don't know a lot about cochlear implants, so could you maybe a little bit tell me a little bit more about, like, what is a meaningful change in impedance? But then also, like, how do you talk to a family about the device failure? How do you share with a family when you know, like, how much all of those things are?

But then also, like, how do you say, like, clearly this was evident at a previous appointment, but you don't want to throw your colleagues or our profession under the bus as well. So how do you do that? Yeah, I'll try to answer all of those if I don't forget them. I apologize if I forget those three separate questions. So first, in terms of a meaningful change in impedance.

So the starting point is using the indicators or the criteria within the software, right. If the software flags it as too low or too high, great. You can have confidence that that truly is something that is abnormal function. Right. The key is to not assume that the software is going to pick up up on every meaningful change, right.

Software, when it flags an electrode as open or short, it really is just looking at an absolute level, right. There is basically a criteria range from low to high that it says, as long as that absolute level is within that range, it's okay, I'm not going to flag it. Software is not looking at the change across time. That's where we, the clinicians, kind of to go back to something that Jen said. We are not just the testers, right?

We have to have knowledge beyond just that of pushing the buttons. And so where I had said on that slide, something that I always use as a starting point, is that doubling or halving, right. If your impedance changes by more than two times what it was or halves from what it was, that's an electrode I'm going to dig more into and I'm going to see what's going on, because that changes more than what would be expected. Now, there are some, some slight variations from that, right? If you had a listener who had not been having good wear time, maybe wearing an hour a day or not at all, and they suddenly went up to 10 hours a day, 12 hours a day, you're going to see a reduction in impedance with that.

So you'd want to be able to look across that across time. But if you have, like with this kid over, he was a consistent device user. But we had some of those electrodes where they halved from where they were, and another electrode wherever it doubled, that's where that indicated to me that this was an abnormal change. So keeping families optimistic when there is a device failure is one of those arts of being an audiologist, right? Like, you have to acknowledge what occurred.

And I'm a person who believes that knowledge is power. I believe that our patients have the right to have the knowledge of what happened. So I speak very informative with them at a level that they under, that they will understand. Right. I show them the test results that I'm looking at and why that led me to the decision that we did and explain to them what happens next and what their options are, right.

I approach diagnosis of hearing loss very similarly. Right. I say this is what I see, and this is what has led me to this statement, to this diagnosis, from that, then you can really expand and help the family to understand. That is why things haven't been going well over the last few months, few years, however long it's been, and help them to see that by changing, by explanting and re implanting. In this case, that is our option for doing better with this device.

And when you see that where the red flags were present for a long amount of time, I'm always a person. I really try intentionally not to comment specifically about what an audiologist did or did not do before. I pretty consistently, instantly just state this is what I am seeing and this is what that means to me internally. I might be having a different dialogue, but I'm not going to be sharing that outwardly with a patient. If directly asked, which sometimes they do directly ask why that wasn't identified, why no one had talked with him about that before.

Oftentimes I will just describe the different levels of knowledge that we as audiologists possess. We have different years of experience. I don't know the same things, general. And that doesn't mean that I'm a poorer audiologist than she is. Right?

Like Jen knows lots of things I have no idea about and that doesn't make me a poorer audiologist than Jen. And so really just trying to highlight that, that each of us has different knowledge sets and focusing more on myself of this is a knowledge that I have and these are the things that I know about. Thank you so much once again, we want to thank everybody for coming and I think that's about all that we have for today. Thank you all so much. Would you mind moving to the next slide for me real quick?

I want to thank all of you for everything you have provided to us today. It's been a great session. Thank all of you for joining us today as well. Don't forget to

complete the exam after the event is over and it will be available about ten to 15 minutes after the conclusion of the event. Just again, as a reminder, log into your account, go to pending courses, choose take exam and then for live credit for today's event.

You must complete the exam within seven days. Thanks again everyone. We hope you all have a great day.