Testing one, two, three.. We're going to get started here in a minute or two.. People are signing on at a fairly rapid pace right now, so we're going to we're going to give everybody a minute, to do just that .. You're in the right place for today's webinar.. That's entitled building on your experience with evidence based hearing screening practices for children birth to five years of age.. And as I said a moment ago, we're we're seeing people signing on at a fairly rapid pace right now..

So we're going to just give it give it a minute or two before we get started.. Terry, can we do a check with you ?. Yes.. Good afternoon.. This is Terry.. How does this sound?.

William ?. Good.. Thank you .. Well, Gunnar, why don't we start off by putting up our first poll question, and then we'll get started with our introductions there.. For those of you who signed on early, we'd like to ask you a few questions about your current screening practices.. This first question, you see on your screen is which screening methods or method are you currently using?.

That should say using at the end .. So it could be pure tone audiometry OAE or both .. Gunnar, are you able to continue to add questions or do they have to come in sequentially one at a time?. This is Gunnar.. They do have to be sequential.. Okay ..

So for those of you who have just signed on, we're we're just getting started and we're going to ask everybody a couple of questions.. You'll see a poll on your screen and and then we'll get started.. We thought it might be good to just get a little bit of information from those of you who are here.. So the first question is, what are your screen?. What screening method or methods are you currently using ?. All right..

Gunnar, can you put up the second poll?. Yeah.. Do you want me to share the results from the first?. Yeah.. Why don't we see the results of the first one?. Okay..

So primarily oe and then o a bunch of you are doing both.. Great.. All right.. Great .. The next question, which of the online courses have you completed at Learn to Screen dot org?. Puretone OE or both or neither ..

And if you've just signed on we're we're taking a few poll questions right now while we get ready to get started.. People are signing on at a fairly rapid pace.. So we're trying to be productive with our waiting time here for a moment.. You'll see a poll question on your screen right now.. If you could take a moment to answer that, that would be great .. All right..

Let's go to our next question.. Let's see the answer to that one .. And then okay great.. So it sounds like maybe some of you would benefit from knowing about learn to screen.. Org.. Okay ..

And the next question .. What age group are you primarily screening .. 0 to 3, 3 to 5, zero to 5 or 5.. And older .. And once again, if you've just signed on, we're just doing a little bit of polling while we get ready to get started.. And there's a question on your screen about the age group that you are currently screening ..

Let's see the answer to that one .. Okay .. Hold on a minute.. Let me just think about this for a second.. Here.. This is interesting..

Very good.. All right.. Great.. And the next one.. What is your primary work setting in which you're doing this screening.. Is it early head start..

Head start.. Is it part C early intervention type programming.. Home visiting.. Health care or something else ?. Let's see the answer to that one .. Okay..

Wow.. What a nice, nice mix of folks we have on today.. Was that our last question or did we have

one more?. I think we have one more, but it's at the end.. Okay, great.. Good..

All right.. Well, we're going to get started .. Thank you.. Everybody, for coming on and being on time.. And I want to introduce myself.. I'm, I'm Will Eisenman and I'm the director of the early childhood hearing outreach Initiative, also known as the Echo initiative at Utah State University..

The Echo initiative is housed within the National Center for Hearing, Assessment and Management at Utah State of which I'm the associate director and since about 2001, for 20 years, the Echo initiative served as a national resource center on early hearing detection and intervention with a focus on supporting early head Start and Head Start program staff in implementing evidence based hearing, screening and follow up practices.. And we're delighted to be able to continue to make our resources and other learning opportunities like this one today available to staff from Head Start programs.. As well as to anyone from early care and education settings who can put these to use.. So and we saw that we have quite a quite a diverse group of people on today, from lots of different programs, Head Start, Early Intervention Home visiting health care settings and other other types of, of settings.. So we welcome all of you.. I'm joined today by Doctor Terry Foust, who is a pediatric audiologist and a speech language pathologist who has served as a consultant and as a trainer and as a real partner to me and my team..

With the Echo initiative since our very beginning.. So thank you, Terry, for being with us .. Terry .. Thank you.. William.. Sorry about that..

Yes.. As Williams mentioned, we just had the most wonderful opportunity to work with other echo team staff as well as local collaborators and partners in being able to provide training in almost every state with just thousands of staff from early Head Start, Head Start, American Indian, Alaskan Native and migrant Head Start programs, as well as other early care and education programs over the years.. As William mentioned.. And we are always encouraged, as we are to today by the huge

amount of interest that there is in establishing evidence based hearing, screening programs.. With the goal that children with hearing related needs can be identified and served.. So today's webinar is primarily intended for those of you who have already had some experience implementing evidence based hearing screening for children, either in the birth to three range 3 to 5 or both, or even some of you who are screening older children..

We're delighted to have, well, well over 700 people registered for today's webinar.. And some of you have submitted questions in advance.. And our responses to those we have tried to incorporate into our webinar today and plan to share that with you as a part of our flow of the conversation today.. But we'll also try to have time at the end to address any other questions that that might come up, for you.. We did notice that some of the questions we received were from folks for whom evidence based hearing screening is new.. And if that's you, by all means, you're welcome to stay throughout today's webinar..

But we also want to alert you that tomorrow, August 28th, we're having an introductory webinar that will present the topic of evidence based hearing screening for children throughout the birth to five age range, starting at the very beginning.. So you'll see the link for that for registering for that webinar in the chat.. Here in a moment.. Gunnar, if you could put that into the chat that would be great.. And you'll also find it on our website, which is kids hearing dot org.. If you'd like to attend that webinar instead, or in addition to today's webinar, or if you know of anybody else who might benefit from an introduction to, OE screening..

But we do encourage you that if you have introductory questions, you'll join us tomorrow and we'll address those there .. We're, we're going to organize our time today around many of the questions that you already submitted.. And we're going to present some of the information about these topics.. We're going to start with a brief review for our newcomers to evidence based hearing screening on the purpose of hearing screening and what the recommended methods are.. We're going to, review

the screening and follow up protocol that applies to whether you're doing OE or Puretone or or no matter.. And no matter what age group, you're, you're working with, we're then going to turn our attention to a review of issues pertaining specifically first to pure tone audiometry..

And then we're going to look at otoacoustic emissions or OE screening and some helpful hints for screening.. And then we're going to delve into questions about children who may be challenging to screen .. And others other issues that you all have raised.. We're going to wrap up by reviewing resources that we have online to help you further address any remaining questions you might have.. So the sequence of today's presentation is going to follow what you see on the screen right here.. And that's going to appear as a sidebar throughout the session today, so that you can be reminded where we are in our discussion..

And also because today is, webinar is being recorded, and will be on kids hearing.org in the next couple of days.. If you replay it or if you're listening to it there for the first time, you can advance through the, presentation to the topic area that is of most concern to you by looking at that sidebar.. So , you'll most likely you've most likely seen this graphic before.. And you know what?. I'm going to turn off my video.. So you don't have to look at me anymore..

Okay?. You've most likely seen this graphic before.. We've used it a lot over the years because we're always trying to remind people that the work of the Echo initiative is based on the recognition that each day, young children who are deaf or hard of hearing are being served in early childhood education and health care settings, often without their hearing related needs being known.. We often talk about how hearing loss is an invisible condition, so how can we reliably identify which children have normal hearing and which may not ?. You know the short answer to that question, William, is that early care and education providers can be trained to conduct evidence based hearing screening, which you see depicted in these photos here on your screen.. Now, the ultimate outcome of a hearing screening program is that we can identify children who are deaf or hard of hearing, who

have not been identified previously..

So you'll recognize the procedure on the left as Otoacoustic emissions, or OE screening, which is the recommended method for children birth to three years of age and is increasingly recommended for children 3 to 5 years of age, as well.. Now, on the right you'll see the , the procedure known as pure tone audiometry.. Hearing screening.. And that's historically been the most commonly used screening method for children three years of age and older, and which you'll still see in many early care and education settings and providers using.. Now, as William mentioned, we'll be talking about both of these methods today.. Keeping in mind that hearing screening, the hearing screening process does not diagnose a hearing loss, but it does identify children who need further follow up evaluation, either by a health care provider or an audiologist with the ultimate aim of diagnosing a hearing loss if in fact it exists, and then connecting those children with the intervention services that they need..

So your screening process is the first important step in this process of identification.. And now, for those of you who might have just signed on, that was Doctor Terry Foust, who is a pediatric audiologist, and a speech language pathologist who works with us.. Some of you have asked how we can more effectively encourage parents to follow up when a child hasn't passed a screening, and one way is to share information about the incidence of hearing loss and the fact that a child's hearing ability can change at any time, often without anybody even recognizing it.. So about three children in a thousand are born with a hearing loss, a permanent hearing loss, deaf or hard of hearing.. Most newborns in the United States are now screened for hearing loss using evidence based methods.. Most before even leaving the hospital, which is great..

But screening at the newborn period isn't enough because the research suggests that the incidence of permanent hearing loss doubles between birth and school age.. From about that 3 in 1000 at birth to about 6 in 1000 by the time children enter school.. And you know what that incidence continues to

go up steadily throughout the school age period .. So having that information ready to share with families can be one piece of information for that can be useful in getting them to follow up.. When a child needs referrals.. And so that also really means that we can't only screen for hearing loss at birth..

We really need to screen throughout childhood because hearing loss can occur at any time.. It can occur as a result of illness, physical trauma or environmental or genetic factors .. So this is often referred to as late onset hearing loss.. And that simply means that it's acquired after the newborn period.. And again, similar to subtle changes in for example, vision that can occur for any of us, a child can experience a change in hearing ability that we want to identify so that they have full access to language and all of the information they are to be exposed to as they learn and grow.. And this information is on our website, as, as is a letter for parents that all of you are welcome to use, you know, any conversation we have about screening and follow up should always begin with a reminder that screening methods aren't perfect, and that whenever a parent or a care provider has a concern about language or hearing, children should be referred for a more thorough evaluation..

Even if the child passed the hearing, screening and that is true with even the highly reliable screening methods that we're talking about here today.. We'd also like to acknowledge just right up front that for any number of reasons, there will be an occasional child that you just can't manage to screen.. So after you've tried everything you can do and you've had a colleague try as well.. If possible, you're going to be faced with that dilemma of what to do.. And so here's our recommendation about that question.. The question that some of you raised, if you aren't successful screening a child, refer the child to someone who can..

And often that's going to be a pediatric audiologist.. Keep in mind that sometimes the children you may have the most difficult screening are going to be the very ones who may have a hearing loss.. So we really don't want to skip them and just try again next year.. You know, that's one of the things

that we often cringe about when we hear justifiable frustration around the screening of a given child.. But we, those are the ones that very well may be the ones who are trying to identify.. So we've always got to do something..

So we just mentioned a pediatric audiologist, which is what Terry is.. And if you don't know a pediatric audiologist is a professional who specializes in the diagnosis and non-medical treatment of hearing and hearing related disorders associated with the ear or the auditory system.. A pediatric audiologist specializes in children, so having access to a local pediatric audiologist, if at all possible, can really be helpful to your program.. They can help with equipment questions you might have.. They can consult with you about a specific child who you're not being able to screen, or who isn't passing.. And importantly, maybe one of your resources when you need to refer a child for further evaluation..

So how do you find a pediatric audiologist on our website?. Kids hearing org, you'll find a link that says find an audiologist, which should help you.. In fact, one question that is a perfect question for a pediatric audiologist.. And which some of you submitted today, is about whether, you should screen children whom you know, to have p tubes.. So let's just answer that question right off the bat.. Since we have a pediatric audiologist on with us today..

Terry, what do you what do you say?. Should we screen children whom we know have p tubes.. So yes, you absolutely can and should screen children whom, you know, have p tubes.. It's really one way to find out if the tubes are actually doing the job that they've been put in to do.. So children with p tubes should pass hearing screenings if the rest of their auditory system is functioning normally.. For those of you that are using the OAE method, you'll want to look at your equipment manual to see if you have to push an extra button..

That simply will adjust the setting for screening an ear that has p tubes.. So you want to be sure to

check that out.. Some equipment, as I mentioned, will require a temporary adjustment while other brands and models do not.. And then for those doing pure tone, you'll complete the screening just as you would for any child.. So yes, you can and should screen children that have P tubes.. Simple as that..

That's a good answer.. Okay, so we have two screening methods.. We want to talk about today by way of big picture.. If you're responsible for children who are under three years of age, the recommended method is categorically zero screening, which you see on the left here.. If you're responsible for screening children three years of age or older.. Historically pure tone audiometry has been considered the recommended method for this age group..

This is the headset screening where the child raises a hand or performs another task each time they hear a sound.. That's presented into the earphone.. You see this method on the right .. Now, several of you have asked about why some programs are no longer using pure tone audiometry.. With a 3 to 5 population and have switched to OAE screening, and there's there's just some growing recognition that although the pure tone method has been the most widely used method historically, it may not always be the most feasible method to use with some of these younger children.. So the research has shown that about 20 to 25% of children in that 3 to 5 age group can't be screened with this methodology, the pure tone, audiometry methodology, because they just aren't developmentally able to follow the directions reliably..

And, you know, that's really been our experience as well.. So in those instances, OAE screening is the preferred method for these children.. So as we emphasized a moment ago , we want to screen every child.. So even the ones we find challenging to screen.. Right.. So at a minimum if you're establishing evidence based practices for 3 to 5 year olds, and if you're using or considering using the pure tone method, you'll also need to be equipped and prepared to do oaes on that 20 to 25% who can't be screened with pure tone audiometry..

And some of you who are on today indicated that you are doing both OAE and pure tone screening now.. Alternatively, you'll need to have a means for you.. You'll have you could have another means for systematically referring all of those children to audiologists whom you can't perform.. The pure tone on, but frankly, that could be pretty challenging in its own right.. If you're referring, you know, 20% of your children to an audiologist just simply because you can't screen them.. I think, to, to simplify things, more and more of us audiologists are recommending the use of oaes uniformly with all children three years of age and older..

And that's because it's it's quicker than pure tone screening , both to learn to do and to actually implement.. And it's more likely to be a method that will work across the board with all children in that 3 to 5 age group that you'll be screening.. And it's equally as effective.. So if you or your program are still undecided about which method to use primarily for children three years of age and older, we encourage you to carefully review a document that we have on our website, Kids Hearing Org that compares OAE screening and pure tone screening for this population.. Now here's an important issue.. Some states may have regulations about what methods are to be used based on age, requiring, for example, pure tone for children three years and older as at least the primary method, the one you do first..

So you need to check with your state if you're considering oaes for the 3 to 5 age group, and you can do that by contacting your state's newborn hearing screening program, and you'll find a link to that state office on our website as well.. So that's, what we want to say about Oaes and, pure tone.. Now, one of the questions that we got from some of you is, are there any other recommended evidence based methods that could be considered other than Oaes or pure tone, as we just described?. Terry.. Yeah, the the answer really is no.. There are no other recommended evidence based methods for the populations that you're screening..

You can augment these methods with parent questions and your observations of a child.. Those are

that's absolutely important to note, but they do not and cannot stand alone as hearing screenings.. Okay.. So we're going to shift gears here.. And we're going to look at the question of what is our overall screening and follow up protocol , both for Oaes and pure tones.. And I didn't mention this earlier, so I will right now at the end of today's webinar, we're going to have time for questions and then we'll end with a quick little evaluation of how we did and when you complete that, it will generate a certificate of participation in today's webinar..

So if you're wanting and needing that, be sure to hang on for that.. I failed to mention that at the beginning, and I should have.. Okay.. So we're going to talk about our screening and follow up protocol .. So we use our evidence based methods which are key to fulfilling the purpose of hearing screening.. But our best screening efforts are only worthwhile if we implement effective follow up..

When children don't pass.. So let's take a good walk through the follow up protocol and see if this addresses any questions you might have about that.. And William, can I just mention that, one of the best things to remember is that the steps of the follow up protocol are the same.. They're the same regardless of what screening method you're using or how old the child is.. Yeah.. Thank you Terry..

So there's one main rule that you can just commit to memory.. And that is that the screening and follow up is complete under one of two conditions.. Either the child passes the screening .. Whoops.. Either the child passes the screening on both ears or the child receives an evaluation from an audiologist and you've obtained those results.. Any other step is somewhere in process, and you haven't really reached the end of the road yet..

So here's how the screening and follow up process unfolds.. Keep in mind, we're always talking about screening both ears and that they each need to fulfill the passing criteria for the child to pass overall.. So if an ear passes the screening right off the bat, the process is complete for that ear.. If the ear doesn't pass, we can't be absolutely sure why that is .. Sometimes an ear may not pass

because it's screener or r error , or it could be due to a temporary condition, like a head cold, so it really wouldn't be.. It usually isn't practical for every child who doesn't pass the first screening to be referred to a health care provider or an audiologist in the birth to three age group, we can see that about 20 to 25% of children we screen with Oaes do not pass on at least one ear..

The first time that we screen them.. Several of you have asked about how a head cold, congestion, etc.. how all that can affect screening outcomes.. And this is where we might see that here in the protocol.. So we know that a head cold, congestion, even fluid in the middle ear can be, temporary or transitory and that things will clear up and look different in a week to two weeks.. And so we'd want to go ahead and rescreen..

So that's exactly what we do.. If a child doesn't pass the first screening, instead of making an immediate referral, we wait about two weeks and screen again.. And by the way, if one ear passes that first screening and the other does not, you don't screen the ear that passed again that second time.. You don't need to do that.. Just the one that didn't already pass.. If the ear passes the second screening, the screening is then considered complete for that ear ..

If, however, the ear still doesn't pass the screening, this is the point at which further evaluation is needed.. We expect about 8% or maybe a little fewer of the children that you're screening won't pass the second screening, and we'll need to have their ears checked by a health care provider.. Hopefully using a method called Tympanometry or pneumatic otoscopy .. And it's not uncommon that a that a wax blockage or fluid or inflammation in that middle ear.. That's what's prevented the screening of the inner ear from being completed.. And that could have caused a non-passing result..

So at this point, you'll want to intensify your monitoring of that child's follow up.. So we'll consult closely with the health care provider to find out the results of the middle ear evaluation and any treatment that's being provided.. And we encourage you to always document the results of the

middle ear evaluation.. And keep in mind that, since the ear hasn't yet passed the screening, we still don't know if the inner ear or the cochlea is functioning properly.. Most health care providers do not have hearing screening equipment in their offices, and therefore they can't complete the screening process.. So you'll need to confer with the health care provider about when the ear should be rescreened ..

Yeah.. And you know, this is the point in the protocol where we see the most breakdown, where people will make a referral to a health care provider and think that's the end of the process.. But as you remember, our our rule, overall rule for when the process is complete is when the child has passed the hearing screening on both ears.. And that's not why they go to the middle ear.. Consultation.. Or they've been to an audiologist..

So this is never the end of the road unless a health care provider does, in fact complete a hearing screening, just like you have.. But in most cases they won't.. And after the middle ear evaluation, you'll conduct a rescreen.. Keep in mind that this is just a small fraction of the total number of children you're screening, usually less than eight out of 100 children will need these follow up steps, but it is an essential step to get completed so you rescreen them after they've been to the health care provider.. And you know what?. In most cases, they'll pass at this point, if the ear passes, then the screening is complete ..

But if the ear still does not pass, that's when the child should be referred to a pediatric audiologist for evaluation, because this is when our level of concern is heightened because the child is now repeatedly not passed and we really at this point, don't think there's a middle ear condition to explain why the child is still not passing, because that's what typically gets addressed or ruled out by the middle ear.. Consultation is William just mentioned.. So about less one less than 1% of children will typically need this final step of being referred to an audiologist.. When you make that referral to the healthcare provider for the middle ear consultation, it's always a good idea to inform them that you're

going to screen the child again, and that most likely, you would need their assistance in making a referral to an audiologist should the ear still not pass the rescreen when you make that referral, or in collaboration with the health care provider to an audiologist, you really want to support the parent in making sure that that happens, that they get to that audiological evaluation.. You want to provide the audiologist with all of the screening and follow up hearing health outcomes that you've got, and then you want to get a record from the audiologist evaluation.. We'll show you this in a moment, but we want to make sure you check out our website for the referral forms and letters that we have there..

We have a letter to health care providers that describes your screening program and what you are asking for in the referral for a middle ear consultation.. So take a look at those and see if that might help you improve that follow up process that you're seeking from the health care providers, which I know some of you have been asking about, you know, how can we make sure that part happens and that health care providers do?. In fact, what we're needing them to do .. So that gives you an overview of the complete screening and follow up protocol from the start to completion.. Keeping in mind that overriding rule, try to say it to yourself that the screening and follow up process is complete.. When either ..

The child passes the screening on both ears.. And what's the other part?. Or the child receives an evaluation from an audiologist and you obtain the results .. And remember, although screening can lead to the identification of the most common types of permanent hearing loss, what you're doing here is only a screening and it's not 100% perfect.. So any time a parent, caregiver, or teacher has concerns about a child's hearing or language development, refer for an audiological evaluation.. That's always going to be warranted..

And you know, if you have children in your program that you know you've heard or you know, from documentation are getting speech and language therapy, it's a good idea to make sure that somebody recently evaluated their hearing.. You would be surprised how often children end up in

speech and language therapy, and nobody has screened their hearing or tested their hearing.. And we can't emphasize enough how logical it is that those two things have to go hand in hand.. So we know a number of you have had questions about how to move through this process along, what once referrals are made and you've asked both about how to support parents in follow up as well as what to do when health care providers don't support the ongoing follow up steps.. And Terry, I want to ask you to take a minute and reflect on what you've learned over the years about supporting families in follow up and in getting health care providers to do what you're needing them to do.. Yes..

Thank you.. William, I think one of the first things is helping our parents and families to understand, the the real important need to follow up, especially on referral for further diagnostic services.. I can't help but come back to the corollary for vision.. I think people view vision a little bit differently from hearing.. So if there's a referral to help with vision, I think there's an understanding that we can see.. But we're not blind..

And I think, it can be misunderstood with hearing because we'll say, oh, they're not passing.. We need a referral.. And I've heard parents say, oh, but they hear things.. They I know they can hear.. They startled to a pan or they startled to loud sounds, or they respond sometimes and they tend to minimize the importance of of hearing, but not necessarily realizing that there are degrees of of hearing loss very similar to, to vision.. They may not be blind, but may have a serious vision..

Visual impairment.. And we often try to make the corollary to perhaps other diseases or other issues and, and concerns with children.. So if it's, orthopedic, we need to follow up on this.. And we just want to make sure that they understand that hearing is just as important as those other concerns that we might have.. And so, Terry, you're talking about really trying to educate the parents about the subtleties of hearing potential, hearing loss and one of the parts of that is to recognize that hearing or sound is often accompanied by some visual thing .. Also..

And so children will turn toward sound partly because they've been alerted visually toward the sound.. And that can really fool us in thinking that they're hearing better than maybe they are.. Exactly.. And that's actually one of our challenges in screening with Puretone is to reduce those visual cues, because as you said , they can be so important in, in, in masking.. What a hearing loss.. You know, deficit can be, you know, as you talk about other ways that we can support parents in understanding and helping with follow up, you know, keeping appointments or actually making a follow up appointments can be really challenging..

And so one of the things that I do is I ask, can I share my results with your provider?. Can I help make the appointment for you?. How can I support you in getting to your appointment?. There are sometimes occasions where, rides can be arranged and things like that, and, but, it's really important to, almost help some families with the making of the appointment and the keeping of the appointment.. And I know these are challenges that many of you face and probably have great strategies that it at some point would be wonderful to share.. Some of you have actually shared some of those..

One of them that I recall is being good is letting a parent know, finding out what the date of the scheduled appointment is for that middle ear consultation or for the audiologist and putting it on your calendar to remind them and then to let them know also that you're going to get in touch with them a day or two after and then doing that to find out what the result was.. All of that for staying in touch will help tighten up the screening and follow up protocol .. So let's look at where you'll find this screening protocol.. The letters and other forms that we're talking about here.. This is our our landing page of kids hearing org where you'll find a range of resources including general information.. If you're, needing to acquaint new staff or yourself..

So let's just take a quick look at what you'll find here.. There's planning resources there .. Do you see that drop down where it says find an audiologist.. That's what we referred to earlier under there..

You'll also be able to find the contact for your state's newborn hearing screening program.. To find out what you can about any state regulations regarding, that screening equipment, information for those of you who are seeking training, we encourage you to check out the resources here under Accessing Training..

Both for OE and pure tone audiometry.. There's an online course both for Oaes and pure tone that, you may find helpful for you and your fellow staff members.. Then practical resources are in this area of preparing for screening letters.. The protocol guides and forms, all of that is in this group of screening resources.. And then follow up resources is a tracking tool as well as monitoring for quality.. And today we're going to talk a lot about the monitoring for quality..

The OE Screening Skills checklist and the pure Tone Screening Checklist, which you see on the bottom there.. We're going to be referring to those.. So that's where you'll find those right there .. So we've appreciated the various questions that we've received from some of you.. To review the screening methods and to ask us to walk through each screening process and specifically on the documentation of results so that you're sure to follow the protocol throughout the whole thing.. So let's take a minute, starting off with pure tone audiometry, keeping in mind that while the two methods, pure tone and OE are different, they follow some of the main steps..

The same way.. Only in a few different ways.. Unique to each method.. So as I just showed you, there are several tools that can support your screening efforts.. For each method, we have.. As I just said, the screening skills checklist this which you see on your screen right here, is the Pure Tone screening checklist..

And it's helpful as a step by step guide for conducting any given screening with a child.. So if it's been a while since you've screened, or if you're in the initial learning stages with another staff member, not only can this be a useful guide, as you prepare and complete a screening, it can also

be useful for monitoring the quality of your screening so you might want to have somebody evaluate your screening, maybe your supervisor or if you are the supervisor, you could go through the screening skills checklist to make sure that you are adhering to the to the primary and essential steps that makes pure tone screening an evidence based practice.. Now, there are also forms for documenting the results that follow the screening protocol step by step.. And so and that's true for both OE and pure tone.. This is the pure tone screening form in which you after recording and identifying information about the child, you document the screening results for the first screening.. And then in most cases, the children will pass on that initial screening..

And you really only use that first portion right there.. But, for children that don't pass, then you would continue to use the rest of the form.. when children don't pass that second screening, remember that point you would make a referral for a middle ear evaluation.. We have the companion form, the diagnostic follow up form, which , gives you a way to document those results throughout the whole protocol.. So take a look at this screening checklist.. It gives you specific things to do as you set up for your screening..

How to check out your equipment before you ever screen.. That's always important to check out your equipment, regardless of which method you're using.. And one of the ways to do that is to test out the equipment on yourself or somebody else.. Make sure that it's doing what you think it's doing before you even attempt to screen.. But then you will actually have the child present after that point.. And the first step is to inspect the child's ears visually and that's described right here in the screening form..

Now let's go over to the screening form and see how this takes you step by step through the protocol to make sure that you are adhering to it.. As I said, you'll indicate the child's specific identifying information first, and then you'll conduct that visual inspection of the ear.. Terry, what are we looking for in a visual inspection of the ear before we proceed with the screening ?. So William,

we're going to want to take a look at the ear to make sure that there's no visible sign of infection or blockage.. So we just want to take an overall look, open that ear canal and look in there and see if there's anything that's visible.. If the ear appears normal, which it will be most of the time, then we'll proceed with the next step..

And that next step is to prepare the child for the screening by doing what we call conditioning.. This means teaching the child the process whereby the child provides a behavioral response each time they hear a sound.. Now remember we're talking about pure tone screening.. Now.. So that's where they raise a hand or drop something in a bucket each time a tone is presented.. So conditioning is where you as the screener, you instruct or you condition the child in how to listen for a tone..

And then to respond by raising their hand or placing a toy in a bucket.. You do this by presenting the tones at about at 60 and at 40dB levels.. And these are levels that are loud enough for them to.. We ensure that they can hear.. And while you're conditioning the child, you're usually facing them, making sure that you're carefully assessing whether they're understanding your instructions.. When you think they are understanding, then we're going to turn them around so they can no longer see you or get those visual cues..

We talked about.. And if they continue to respond as you and we want to see if they continue to respond just like you instructed, once you've seen that the child reliably responds to the sounds that are presented just as you've instructed, that's when the actual screening can get started .. So let me interject, Terry.. We've received some questions about just how long that conditioning process should take .. Yeah, let me answer that.. The conditioning actually should not take much more than five minutes, hopefully less children who are going to be successfully screened using the pure tone method..

They ought to be able to be screened in 10 to 15 minutes max , including this conditioning step.. So

if you can't condition a child in five minutes or less, then you probably should consider using your backup plan, which is either to do an OE, hopefully right then while you have the child there.. Or you can try on another day if you have the flexibility to do that.. Just remember that if you can't screen the child, you either need to do an OE or refer the child to someone who will be able to successfully screen them .. Probably a pediatric audiologist .. And again, I just want to emphasize that, we need to remember that some children who have hearing loss could be the very ones who are the most difficult to condition to do the screening..

So one way or another, we want to be sure that we get every child screened.. It's it's really never, never acceptable to conclude that if a child can't be screened, as you had said earlier, that we just wait till next year because these are the very children who may have hearing loss .. Now, during the screening process, this listen and respond game is repeated at least twice at three different pitches or frequencies on each ear, and while noting the child's response or their lack of response after each tone is presented, if the child responds appropriately and consistently to the range of tones presented to each ear, then the child passes the screening .. Now, assuming that the child is successfully conditioned, that's when the screening process begins.. So note here on the form that the form provides space for you to record the results for each ear.. So begin with the right ear by repeating the conditioning tone one more time and noting that the child responded as desired ..

The actual screening then starts and as I said, up to four presentations of the tone can be made for each frequency level.. Starting at 2000.. Then 4000, and finally 1000Hz.. Two responses are needed for the ear to pass for a given tone.. Once.. Once you've completed the presentations across all frequencies, all three frequency levels, the form will then remind you how to determine if the child passes for that ear..

Now, the child needs to have at least two successful responses out of no more than four attempts at each frequency level in order to get that overall pass ear pass.. Once that is recorded, then the left

ear is screened in the same ways it's screened in the same ways.. Recording each presentation result as you go again.. If the child responds at least two times at each frequency level on both ears, then they pass the screening.. Now sometimes you'll have an ear or even both ears that doesn't meet the criteria for passing.. Just like we see in this example here..

For the right ear, see how the child responded?. The child only responded successfully one out of four attempts at the 2000Hz level.. So if one or more ears does not meet that pass criteria, just as you see here, then a second screening of the previously non-passing ear's ear ears is conducted in approximately two weeks, just like this form indicates.. Here .. So you'll do that second screening two weeks later.. As we indicated on the ear or ears that did not pass the first time..

In this case, we only need to rescreen the right ear , right?. If the child passes at this point, the screening is complete because you have received passing results on both ears right ?. But if that previously non-passing ear still doesn't pass like you see in this example, here, what next?. The form tells you this is when we record that and we and the form points us to the next step, which is a middle ear consultation from a health care provider .. For any child who is referred for a middle ear consultation from a health care provider, you'll want to use the diagnostic follow up form, and you want to use that follow up form on which you'll then document the remaining steps of this child's screening and diagnostic process, starting with the results of the middle ear consultation .. Now, since the child was referred to the health care provider to see if there may be a middle ear health related problem that may have prevented the child from passing the screening on either ear during your first two screening sessions, you're going to want to find out the results of this consultation, and you're going to want to record them here ..

Right there.. Then, once the health care provider indicates that the ears are clear, healthy and clear , then you'll rescreen the child's ear.. Ears that have not yet passed right there.. Follow the arrow on your screen.. All children referred for a middle ear evaluation must receive the rescreen on any ear

that did not previously pass .. You'll document the screening results back on the screening form that we started with..

If the ear passes, then the screening is complete .. And then if at this point there is still an ear that has not yet passed the child is then referred for a complete audiological evaluation .. And you can see this right there .. That box right there.. And this is where, as we talked about, we're going to want to support the family in completing this really important step.. And we want to be sure to get the results..

And document them on this form.. You will also want to collect, additional supporting documentation of the Audiological evaluation results.. Especially if a permanent hearing loss is identified.. And in most cases this will include additional referrals for intervention services that you'll want to be aware of.. So you can support the family in obtaining those.. And then once we've got all of these results, then you'll consider the child screening and follow up process complete..

So that gives you that overview of the complete screening and follow up protocol from start to completion.. Keeping in mind that overriding rule that the screening and follow up process is complete when either the child passes the screening on both ears or the child receives an evaluation from an audiologist and you've obtained the results.. And remember, although screening can lead to the identification of those common types of permanent hearing loss, it is only a screening.. And any time a child, caregiver or teacher has concerns about a child's hearing or language development, referral for an audiological evaluation is warranted.. Even if they pass the screenings .. Now, William, let me interject with another question that someone raised in a previous email to us..

The question was, what if a child does fine in responding at first, but then becomes distracted?. Or you observe they're no longer engaged in the screening, say after the first couple of pitches, what

do you do?. And as you all know, this can absolutely happen.. So if it does, just be sure to document as far as you got in the screening process.. And then you could do one of several things.. Then you could use your backup method..

The OAE instead.. If you have that, or you can come back to this child on another day and continue where you left off, making sure, however, that you always start by repeating that conditioning process before you continue with the actual screening steps where you left off .. Perry, you have to do the same thing, right?. If if there was a sudden increase in environmental noise, that is outside of your control, you'd want to stop.. Is that right?. Yeah, absolutely..

We want to monitor all of those same things to make sure that the screening process can continue accurately.. So, if there's a sudden increase in environmental noise, we're going to we're won't be able to continue to screen at that time.. So we'd want to come back another time again, picking up where you left off.. Right.. And oh, sorry, I was also just going to say that, if a child is not able to be conditioned again or remain attentive, then again, like we mentioned, you want to use the Ow method or refer them to an audiologist.. And again, I, I know I've said this many times in our discussion this afternoon, but again, those children with hearing loss are often the very ones who are most difficult to screen..

So the last thing we want to do is abandon the screening process on those children and just conclude that they can't be screened without doing something else, whether that's screening with another method like OAE or making a referral to an audiologist.. So just to remind you, mind you kids, hearing org is where you'll find this information and where you can access training, and look for these other resources that we're talking about here.. Like the screening skills checklist.. So let's shift gears now and talk about that OAE method as we've already said, this is the recommended evidence based practice for children 0 to 3 years of age.. And increasingly being used with other children as well.. So Terry, walk us through oae screening..

Yeah.. So just like we started with the other to conduct an OAE screening, we're first going to take a thorough look at the outer part of the ear to make sure there's no visible sign of infection or blockage.. And if the ear appears to be normal and healthy, then we're going to go ahead and and proceed with the screening.. We're going to there's a small probe.. We have a small probe on which a disposable cover has been placed .. We're going to insert that now into the ear canal , and a button is pushed to start the automated screening process..

Now the probe probe sits independently in the ear and it delivers a low volume sound stimulus into that ear.. A cochlea or the inner snail shaped portion of the ear.. A cochlea that's functioning normally will then respond to this sound by sending the signal to the brain, while also producing an acoustic emission.. This emission is analyzed by the screening unit and in approximately seconds or so, a result appears either as a pass or a refer , and every normal healthy inner ear produces an emission that can be recorded in this way, just like we showed you with the pure Tone screening, we have a screening skills checklist for Oaes as well that can make sure that you're following through all of the right steps that can be used both for, for monitoring your own steps through the process as well as for evaluation and quality monitoring purposes.. So we'll want to make sure that you have a chance to look at that screening skills checklist a couple of things to highlight in addition to the list of steps .. You'll see that there is a list of supplies, on there that, is helpful to, to, to look at as you prepare..

If you haven't had the equipment calibrated in the last year or so, you'll want to make sure that this is done properly.. So regardless of the screening method you use, you'll want to make sure you communicate with parents and other program staff who you're cooperating with, and whom you're seeking support from .. So look at those preparation steps and, and consider that as a part of your overall screening process.. Now some of you have asked about how to prepare children for hearing screening.. And, there's so much we could we could share and you could share with us.. But our main recommendation is to is to just keep it fun, regardless of which method you're using..

So rather than referring to the activity as screening or a hearing test, we're going to call it a listening game.. And we're going to engage teachers or parents in some activities, including noticing the child's body parts, including their ears, and maybe expand on the idea of what that animals have ears to .. So this is where that supplies list is.. And, and then we're going to talk about and show you the OIE screening form.. So let's look at this form.. The these are much simpler to follow than the pure tone forms, because the process of oaes is automated, allowing you to just record the ear specific outcomes for each screening..

And these form directly correspond with the protocol as well, helping you know what the next step is in the process.. Until the child's screening and and perhaps other follow up evaluations are completed so you can record the results of the first OAE.. And if the child passes as you know, you're done.. And if not, then you conduct a second 1 in 2 weeks and if there's an ear that still doesn't pass, you put on the date of a middle ear consultation and then you go to that diagnostic form just like we did with the with the pure tone form.. And you record the middle ear consultation results.. All children that are referred for a middle ear consultation still haven't passed the hearing screening in most cases..

So you'll want to be sure to do the next step, which is that rescreen.. And if the child passes the screening is considered complete .. And if not, then the child is referred for the audiological evaluation.. So these two forms do the complete job of providing you a documentation place for every potential step in the recommended screening and follow up protocol .. Because OAE screening is automated, it doesn't require a lot of manual steps like pure tone screening does, but the challenges with OAE screening are more associated with managing children's behavior in a way that allow you to screen them.. Like many skillful tasks, competent screeners can make it look easy, and I think sometimes our videos and other things that we provide in our educational opportunities can oversimplify this process..

And as we saw from some of your questions, it's not always simple.. No matter how much experience you have, you will be met with children that challenge you.. So a number of you have submitted questions about children you struggle with to screen for various reasons.. So let's talk about some strategies for screening by, starting to take a look at these pictures.. And what is what do you notice here in these photographs.. Right here..

These children aren't being pulled out into a separate foreign environment or a strange place.. They're being screened in their everyday educational, home and educational environments where the children are already happily spending their time.. And those doing the screening are usually people they know, their teachers, home visitors, other health specialists and we, we found that this is a really good way to go about doing it.. I mean, you do have to prepare those environments, but, Terry, what are your insights about screening in these natural settings?. I actually, I actually think that the screening works best when children are familiar and comfortable with the adult who's doing the screening and where they can, play with a toy, they can be held or even sleep while the screening is being conducted .. So we really have a lot of options..

And I will note that some equipment is more effective than others when attempting to screen in natural environments, but most of them can work just fine under these conditions.. But there are several keys to successful screening to keep in mind.. And let's talk about those.. So the four keys to successful screening is to ensure that we have good probe fit that's going to be one of the best things you can do to ensure we have a good probe fit.. We want to work to minimize movement and to minimize internal noise, which would be noise generated by the child.. And we want to minimize external noise..

So that's the noise in the environment .. Now of course as you've screened there's going to be times when you get an error message or you get a refer.. And I would tell you, don't worry too much about what that error message says, because regardless of the error message, you're really going to do

the same things to try to fix it and try again.. So you're going to reposition the probe because probe fit is key.. So we're going to reposition it and try again.. We're going to work to calm the child..

We're going to reduce that, external noise in the environment.. We want to check the probe for wax and we may need to clean it or replace it with a new cover.. As I mentioned, we want to work to quiet and reduce the movement of the child.. We want to have unique and quiet toys that we can just place and give the child to distract them.. And it's always so helpful if we can get the help of another adult or screener, to help us.. You know what occurs to me, Terry, is these are the kinds of challenges that are faced when screening birth to three year olds, mostly when you're screening older children in that 3 to 5 or older, they're pretty much usually going to cooperate..

And you can get through it very, very quickly.. That's why I think so many people are shifting over to OE screening with these older children.. Yeah, they're they're so much more cooperative now as we mentioned, good probe fit.. Let's actually talk about that.. The goal with proper probe placement is that we have a really snug fit.. A snug fit seals out all of the noise from the environment..

So that means you have to select as large a possible probe cover.. So when you so when you insert the probe into the child's ear, you can totally let go of it and it'll stay in place.. In fact, you really need or have to let go of it.. Because if you hold on to it, your touch can loosen it, which allows more noise to get in and disrupt the screening process.. Or you can block it up against the ear canal.. So let go..

And then as you select probe covers again, like I said, always aim for the biggest one that will fit in that child's ear canal.. And you know, it's just no great secret that aside from experience or experience, will help you be able to make that good probe cover selection .. Let's go on, Terry, and look at this probe that and what this looks like.. Let me start this .. Pointing it toward the nose and then a little bit back, sometimes with a little twist.. We'll see another one here..

What do you notice here ?. The screener has let go.. That is so important.. There's another insertion and a little twist.. And they let go.. We're so tempted to hold it in the ear..

Think we're going to make it better that way.. But actually that tends to be more compromising of the screening process than it is helpful .. So we've received a number.. Oh, sorry.. Well, I was just going to say we've received a number of questions, asking for suggestions on how to screen those challenging kids.. Those ones that are a challenge to get to sit still or for whom we just can't seem to quite complete a screening..

So we'll go over some strategies .. And then if you have some additional questions, we can take them.. But there are several strategies that'll help make it a positive experience for the children and for you.. First of all, I, as I mentioned, we want to create a fun feeling, around the screening, we want to make it, we want to, create that fun feeling, and then we want to position the child and ourselves and other helpers in a way that's comfortable and allows the child's behavior to be naturally directed and then we want to use toys and distractors and rewards effectively.. And, and then finally we'll document those screening results accurately.. So let's take a look at each one of those..

So this is the thing you're probably the best at right off the bat is creating a fun vibe with the children.. One of the things you want to do is avoid using words like it won't hurt.. Don't worry that just kind of brings the whole idea that they might want to worry or might be hurt.. So we just say, let's listen to the birdie, let's talk.. Let's see if you can hear this.. And make it a game ..

Hey, now let's move to positioning.. You want to position yourself to the side of or slightly behind the child.. That gives good access to the ears to help you facilitate good probe insertion.. And as we mentioned, if it's possible, have another adult who can either hold the child snugly or keep them distracted, keeps their hands occupied with another activity, and it's always, always good to sit on

the floor at the child's level.. It's great to have a variety of toys, toys that are novel that the child doesn't normally see, that that will capture their interest and present those toys just when you're needing them to be distracted by the probe insertion.. It doesn't have to be present for the child throughout the entire process..

You can also distract the child by touching their forehead or or providing some distracting sensations.. Maybe on the back of their hand or on their knee.. It's hard to attend to both your ear and someplace else.. You're being touched.. Or if you're being invited, invited to handle something so that can distract them as well.. And rewards are always great as well to set up for children to just make sure that they're doing their best to cooperate as you've asked them to ..

Children often want to get their hands up as soon as they feel that sensation around their ear.. Right, Terry?. Oh yeah, they want to just go right to it and pull that probe out.. So we'd like to show you some strategies for engaging kids in playful ways.. As well as add some cautions about some common errors to avoid.. Watch how this screener is just going to make sure that this little girl doesn't have success at going up and grabbing that probe out of the air..

She's going to reach for it.. But that screener was ready and she has a puzzle piece ready to have the child handle that works so well, and she has her hand as the screener hovering over the child's arm in case she suddenly decides to go back up to her ear .. Offering choices is another thing you know, we don't want to say, do you want to be screened?. But we can offer them choices and toys where they want to sit.. Other things that we are comfortable with them making choices about .. When we introduce the probe, we can show them it..

They can touch it, they can squeeze it.. Maybe we'll have them put it up to a stuffed animals ear.. Take some time with the process.. For those little ones who might need a little time to see just exactly what is happening, and then, remember that we can always pause and wait.. If a child starts

to to cry, we can keep the probe in the ear.. And then as soon as they quiet, we can start the screening ..

We can offer oral distractors too, like a pacifier or a snack.. And if they pass, we can go with that result.. But if they refer while they're chewing or sucking, we would want to eliminate that activity and then test again.. Screen again .. Screen chat.. Oh, sorry..

Go ahead Terry.. Yeah.. Another strategy to consider is screening in groups.. And this can really help some children who may be fearful, to become more comfortable with the process as long as they're seeing others or having a positive experience.. So what we always want to do is try to start with a child that you or the teacher is really confident, will be cooperative, and then set the example that you're hoping for .. And this little girl in the polka dotted dress is literally being held back from her turn..

We've set it up as a reward rather than as something they have to do .. And remember, you can screen children while they are sleeping .. That's always an option.. So consider that, if you don't in a given screening session, get a result.. Get a passing result right off the bat.. Terry, what do you recommend ?.

Yeah, as long as the child is cooperative, go ahead and try that area again.. Just making sure you get a good probe fit and you've done what you can to minimize internal external noise.. And again, it's really important once we've completed that screening process to document the results accurately.. So in the OIE screening you can try a couple of times and we encourage it.. If you don't get a pass right off the bat.. But if you get a pass you don't have to try again because you can't get a false pass..

So you can always go with that first pass.. And you really don't need to screen that ear again .. So,

Let's let's make sure we have some time for questions here.. So, Gunnar, if you could open up the Q&A field, that would be great.. Remember our website which is kids hearing org.. Remember to look at the training options in particular, for you and your other staff..

There are some online opportunities there.. You may want to look at and get acquainted with the other resources that we have there.. Certainly, before you sit down to create something, make sure that you're not recreating the wheel of something.. We've already done most of the resources we have on our website were created in collaboration with people just like you, and so there are things that have been already put, to use.. So, have a good look at that .. So, Terry, we have our first question here..

How long do you wait after pee tubes were placed to do a screening, whether OE or or, pure tone screening.. Yeah, that's really a great question.. Once those pee tubes are placed, you should really be able to screen the child within just a couple of days.. Those pee tubes should be functioning and working.. Almost.. Right away..

And the probe does not go to the level of the eardrum or where those pee tubes are.. So you can just go ahead and screen them within a couple days of placement .. So with regard to both of the methods, why don't we answer this in both with regard to both methods, how long should it actually take to screen a child?. How?. Ten minutes?. 15..

What do you think, Terry?. Yeah.. So if we talk about otoacoustic emissions screening, with a cooperative child, we said we should get a response.. Really?. Within 30s or less.. So if their cooperative, you should be able to get both ears screened within 5 to 10 minutes..

If you have to work and keep them entertained, you may have a screening session that that goes , you know, 10 to 15 minutes and you're going to want to monitor that child to see, where they are

with their tolerance and their, level of cooperation, because you may want to stop and re screen on another day with pure tone audiometry.. Really, if you're not able to get that task conditioned and screening within 10 to 15 minutes, you're going to want to probably move on again to another day or another method .. So the next question is do Ents usually test hearing once one of these methods with one of these methods after placing tubes, that's really a great question.. If, so it depends on the setting and the access that a ENT has to follow up.. In most of the places where I've worked, the referral has come to me.. Following ent, their ENT visit and and the audiologist, the ENT refers to would do some assessment..

But often it doesn't happen.. And that's where we need to stay involved.. And know what the treatment plans and follow up have been .. The next question is do you have any suggestions on what to do if a child doesn't tolerate the probe?. We're talking about?. OE screening here doesn't tolerate the probe being inserted into the ear..

What do you do ?. Yeah.. Lots of there's a lot of things we can try.. And it will depend on the child, but we, I pretend hearing screen on their parent on maybe a stuffed animal and let them touch the probe and handle it.. And then I take it away, and I won't let it.. I will actually won't..

Proceed with the screening either for that session or day, and then I may come back again, and do those same things to familiarize them with the probe.. We've also had people who have used earbuds, say from their iPods or excuse me, the, earphones from various, ways to listen to music and, and place those in and let them listen and , and then we try to make that probe seem very similar.. So it's almost like a conditioning process.. Right, Terry.. Where you're for children who have had ear infections, they may have had some pain around their ears.. So they're they're aware of that possibility..

So gentle touching, just taking a little bit of extra time with them to make sure that it isn't going to be

painful without inviting them to be worried about the pain by talking about it.. So, those are some great strategies for for doing that.. There's a question about the foam probe covers, this person is saying that we've been told we can no longer get those for the older OE machines.. We feel like the older oaes are easier to use and screen with for the birth to five population .. Any recommendation on those or or replacements on those foam?. Sponge tips ?.

Well, I am with you.. I love the foam tips, so I appreciate the question for that .. One reason for those is there's less need to, be it's easier to find the foam tip.. Can fit a variety of sizes of ears versus having to be more careful with selection with the plastic tips.. So that's really helpful.. Some of the older machines, you're right, are no longer have foam tips being manufactured for those..

And once the supply has been used up, then those tips are no longer available.. The more and more though of the newer OE machines are having a foam tip option.. And so there are, several newer machines and updates.. And, you know, for example, the Audix has been updated and the update has foam tip options.. There are foam tip options for several of the other pieces of equipment as well.. So for example, the Madsen Alpha that you see here, the center arrow, some of those all have foam tip options ..

Sorry.. Yeah.. And just for those that, that, those of you who may be doing pure tone screening and considering having Oaes as your backup, the this device, the center arrow right here and you'll find these details about these devices on our website has both a pure tone Audiometer and an OE built into the system.. So you can do both of those kinds of screenings with one device.. And actually, William, I was just going to add the new audix as well.. Now comes with that option..

Okay.. Built in Audiometer.. So, a new development.. Yeah .. We are going to hang around for a minute more, but, you'll notice in the chat in a moment here that there is a link to our evaluation that will also, generate a certificate of attendance for today's webinar.. But hang on, if you still have time,

because we're going to continue to address your questions..

The next step after two failed screenings is to refer where.. Terry, can you talk about is it to the ENT or the audiologist?. Who are we talking about at that point in the protocol?. And I'm going to pull that that graphic up so that we can take a look at that.. Yeah.. So the next step after two failed screenings is actually to refer to their primary care for, looking at that ear and to rule out any middle ear disorder..

So fluid in the middle ear or middle ear infection that can be treated by primary care.. This is to reduce the over referral rate that we would have to an ENT or an audiologist.. And then sorry.. But after they've had, gone through the protocol and have been rescreened and then failed those screenings, then we want to refer for diagnostic, which can involve the ENT and the audiologist.. But it's going to be the audiologist that will do the diagnostic hearing evaluation.. Does this vary state to state?.

No.. I'm not aware of any regulations that would say or dictate who and how those referrals would happen .. How often does the equipment need to be calibrated?. It's recommended that equipment is calibrated annually or once a year.. And so you you want to plan for that and build that calibration cost into your annual budget.. What about reusing tips?.

Yeah, tips are all, meant to be single use.. So we'll you'll again want to, plan that for your, your annual budget to have sufficient supply of tips.. They are single use.. We know, Terry, that earwax issues are always a challenge when it comes to hearing screening.. So how do you address that?. What do you do?.

How much is too visible?. What do you do about that?. Thank you for asking that question.. That's something that we've really learned how to approach based on experience with thousands of kids

used to be or initially when I started, I'd look in there and think, there's too much wax.. I can't, I can't proceed, and I need to refer them in to get that taken care of.. But what we've actually found is go ahead and try the screening..

We may not get it, but when you pull that tip out, it pulled the wax out.. We replace the tip, we try again , and we're able to complete the screening.. So some often that very act of placing the probe and attempting the screening, will remove the wax.. The other thing is, is if that canal is not sealed all the way with wax, you can still get the response that you need.. If you have a, a good probe fit.. So I would go ahead with earwax issues, try to screen if you're unable to complete that screening and you keep pulling wax and and clogging up your tubes and you can make a referral for cleaning on our website on the the equipment, video in the training, actually, I should say it shows how to clean the probe where you remove the probe tip and then you go to the base of the probe with a tissue, a dry tissue, and you move away from the base out to the open air, moving the wax off of the probe to make sure that it's cleaned..

And so you'd always want to make sure that you have a clean probe and that it's not clogged .. Terry, this is a really important question.. All of these are can't can't a child with a mild hearing loss still pass Oaes.. And if this is true, how can we say that Oaes are equal in effectiveness to pure tone screening?. I think the question is actually slight or minimal hearing loss.. And pure tone..

When we screen at 20dB actually would doesn't go to that level either.. And so I think we then have to ask, you know, remind ourselves the, the purpose of screening, which is to identify those that may be at risk for and then, we screen and send those on for evaluation and so it's really, slight and minimal hearing loss that neither method will go down to that level .. Yeah.. You know, neither method is perfect, right?. We're not screening for every possible condition like public health programs usually don't.. It's different than a diagnostic process where there you are looking for every possible thing ..

But in general screening efforts , we're screening for the most common conditions of concern .. Terry, we talked about calibration a moment ago.. Where do they seek calibration of their equipment?. And that's related to both, audiometry and oaes.. Oh yeah.. When I said annually that's the recommendation for both pieces of equipment..

And then where you get those calibrated, I would first, communicate with where you purchase the equipment from.. They either may if it's a local dealer, may provide a calibration services as part of their support to you, or if you've purchased perhaps through school health or something like that, then I would contact the manufacturer who has a range of, of technicians and distributors that provide calibration services, and they can connect you for their particular piece of equipment .. We want to thank everybody for coming and being with us today.. Thank you, Terry, and for our backup folks.. For all of you who have attended today, we really appreciate all of the efforts that you go through to try to identify children who are needing to be referred for follow up.. Medical or audiological care related to their hearing, health hearing is central to a child's learning and development..

And, taking it seriously and making sure that all of these steps that make it evidence based are being implemented as a part of your practices.. So thank you for all that you do on behalf of these kids.. Whose lives you can really change when you identify a hearing loss that nobody has really, realized was there.. This webinar has been recorded and will be on our website at Kids Hearing org in the next couple of days.. And tomorrow we are having our introductory webinar, for those of you who either need or would like to learn about this from the very beginning, or if you know of other people who would benefit from that, go to kids hearing org where you'll find the registration link for tomorrow's webinar, which is at the same time, as this one was.. Thanks everybody ..