

For those of you who are signed on early you're in the right place, for today's webinar that will start at the top of the hour.

We're going to start in about 20 minutes, we're just getting settled in here, so just know you're in the right place.

[STAND BY FOR LIVE CAPTIONS]

An electronic voice: Recording in progress.

(a pause), .

\*\*\*\*\* Intermediate Level Webinar : Building on Your Experience with Evidence-based Hearing Screening Practices for Children 0-5 DR. EISERMAN: For those of you who have signed on early, you're in the right place for today's webinar.

We're going to be starting in about ten minutes at the top of the hour.

(A pause), So for now, you can just get your volume adjusted to your liking.

So you'll also be able to activate -- activate captioning, By clicking on the option "live transcript", on your screen.

(After a pause), DR. EISERMAN: And then you're able to adjust the size of the PowerPoint display, and the ASL captioning ...

Boxes over on the right of your screen.

By clicking on the bar between those two fields.

And moving it one way or the other to your liking.

(A pause), so you have some control in those ways.

Dr. Eiserman: Again, we'll be starting at the top of the hour.

(A pause), DR. WILLIAM EISERMAN: (On camera) For those of you who have signed on early.

...

For those of you who have signed on early... I just want to welcome you, we're going to be starting here in a few minutes.

I want to give everybody an opportunity to be able to adjust their volume to their liking, and get settled in.

And so I am going to just talk for a few minutes, to allow everybody to do that.

As with all of our webinars:

-- this one will be recorded, and will be available on our Web site at [kidshearing.org](http://kidshearing.org), and [infanthearing.org](http://infanthearing.org).

In the next couple of days, So, if anything, disrupts your full attention to today's webinar, you'll be able to stream this at any time.

(Pause), and we always like to keep...

reminding folks that if there's anybody who isn't attending live today, whom you think might benefit from today's webinar, You can always direct them to our Web site.

To have that chance to stream it.

Whenever it works for them.

We know everybody's really busy.

Especially at this time of year.

So... we know that not everybody who could benefit from what we have to offer today is going to be able to join us live.

Terry, can I ask you to do a volume check for us?

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Yes.

Good afternoon, everyone.

How does that sound, William?

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>> DR. EISERMAN: Yeah, maybe a little louder.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Okay is that better?

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>> DR. EISERMAN: I think so.

>> Terry Foust: One, two, three, thank you.

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>> DR. EISERMAN: Yeah, yeah, should we be seeing you Terry at all today or no?

TERRY FOUST, AUD, FAAA, CC-SLP/A: Oh, I'm sorry, I thought you said we weren't using video.

>> DR. EISERMAN: Whatever you want, it's fine, I'll just do it at the very beginning so no worries.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Okay, thank you.

>> DR. EISERMAN: (Laughing), all good.

We have people signing in at a fairly rapid pace right now; so we're going to just hold off a minute or two before we start, and then we'll dive in to our content for today.

Just so that everybody is aware:

There are two things that we have in place today to help make this webinar accessible.

As you have noticed, there is an ASL Interpreter on our screen today.

You can adjust the size of that screen to whatever is comfortable for you.

By pulling the line between the PowerPoint slide screen, and the video screen to the left or right.

Expanding and shrinking them according to your preference.

So you have that option.

we also have live captioning.

So, if -- if you would find that useful, click on the "live transcript" option, And, you can also adjust that -- the dimensions of that screen and location to your liking as well.

This webinar is being recorded, as with all of our webinars; so, if anything disrupts your full attention today you'll be able to stream it again, or if you need to go back and get some information again, that's a great way to do it.

This is posted on our Web site, [infanthearing.org](http://infanthearing.org).

And [kidshearing.org](http://kidshearing.org), and in the next couple of days.

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>> DR. WILLIAM EISERMAN: So....

We're going to give it two more minutes, and then we'll get started.

You are in the right place, we're just holding off while people sign-in at a fairly rapid pace right now. We had close to a thousand people register for today's webinar, and we're waiting for some folks to join us, We know everybody is in a particular high-pace scramble at this time of year; so...

We sure appreciate you finding time to join us for today's webinar.

Okay, I think we should get ready to get started.

I want to welcome everybody to today's webinar.

And -- entitled intermediate level webinar: Building on Your Experience with Evidence-based Hearing Screening Practices for Children 0-5 Years of age.

I am William Eiserman, and I am the Director of the early Childhood outreach initiative known as the ECHO initiative at the Utah State University, the ECHO university is housed within the National Center for Hearing Assessment and Management at Utah State university, of which I am the associate director, And serves as the early hearing detection, and intervention national technical resource center, funded by, Through a cooperative agreement, with the maternal and child health bureau; since 2001, For about 20 years, the ECHO Initiative served as a national resource center On early hearing detection, with a focus, specifically on supporting Head Start, and Early Head Start programs in implementing evidence-based hearing screening, and follow up practices, and, we're delighted to continue to make our resources and other learning opportunities, available to staff from Head Start programs as -- as well as to anyone from early care and education environments, who can put these to use.

Now, before we go any further, I want to give just a quick shoutout to our captioners, And our captioner, and our interpreters, today, a big thank you for them, Offering, their services in helping us make this webinar accessible.

Today; so thank you to those of you who are offering that service.

Now, I'm joined today by Dr. Terry Foust, AuD, FAAA, CC-SLP/A who is a longtime colleague and friend, Who is, a pediatric audiologist, and a speech language pathologist, who has served as a consultant and trainer with the ECHO initiative since our very beginning.

TERRY FOUST, AUD, FAAA, CC-SLP/A: Thank you, William, and good afternoon, everyone, so, appreciate our time with you.

Yes, as William has said, William and I, along with many other ECHO team staff as well as local collaborators, we've provided training, in nearly every state with thousands of staff from early Head Start, Head Start, American Indian, Alaskan native head start, and migrant Head Start programs as well as many other early care and education programs over the years.

And we are always encouraged...

Just as we are today, by the huge amount of interest that there is in establishing evidence-based hearing screening programs.

So that children with hearing-related needs can be identified, and served.

(After a pause).

>> DR. EISERMAN: Okay, I'm going to turn off my video so you can look at the more attractive things

that we have prepared for you to look at today (laughing) and our interpreters) so I'm going to turn off our -- my video and then we will -- we will proceed.

Thanks, Terry!

(A pause), Dr. Eiserman.

So just so that you know, today's webinar is being recorded.

So if anything disrupts your full participation in today's webinar, you'll be able to -- to stream it again, on [infanthearing.org](http://infanthearing.org), or [kidshearing.org](http://kidshearing.org); in the next couple of days, So -- and keep that in mind, also, if there is anybody that you think would BFTD from today's webinar that isn't attending live.

So, be aware of that.

Terry, I don't know if you're aware that your video is on, in case you didn't intend to do that.

Just thought I would let you know.

So, today's webinar, is primarily intended for those of you who already have some experience in implementing evidence-based hearing screening, for children either in the birth to three range or in the 3 to 5 age range, or both.

We're delighted to have well over 800 people registered for today's webinar.

And, many of you submitted questions, to us in advance, and our responses to those questions, we try to oo incorporate into what we've planed to share with you today.

We should have ample time to take additional questions if others come up during the Presentation.

We did notice that there are a few questions that have popped up from folks for whom evidence-based screening is new; and if that's you, By all means, you're welcome to stay throughout today's webinar and -- and hear what other people who have been doing this for a while are -- are asking about, and learning about, But know that we wanted to let you know that tomorrow, we're having an Introductory Webinar, for those of you for whom OAE, and other evidence-based screening, is a new topic.

So you'll -- if you go to [kidshearing.org](http://kidshearing.org), you'll wherfind the link to that webinar; if that suits your need more appropriately, but, again, you're welcome to stay with us.

Now we're going to organize our time today, around, a lot of the questions as I said, that you have sent us.

And -- we'll present some information about each of these topics, We'll 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, then, going to turn our....

Attention to -- to review the issues, pertaining to puretone audiometry method, and to -- and to some of the questions that we've gotten about screening children 3-5 years of age, using that method.

Since many of you are getting ready for a new round of screenings, we'll go over some key steps you'll want to complete to prepare for this.

We'll -- we'll, then, review the steps and the procedures of the puretone screening, just to make sure that, you have those....

Covered as well.

After we do that, then we'll --

we'll switch our attention over to otoacoustic emission screening.

Which many of you are doing, and, since some of you are also preparing for a new round of screening with a group of children using OAEs, we'll overview the steps you'll want to complete to -- to prepare for doing OAE Screenings.

We'll, then, review that procedure.

Some helpful hints for screening, and then delve into some of your questions about children who may be challenging the screen, or other issues, you've brought to our attention.

We'll, then, -- that will, then, be an opportunity, for you -- for you to ask us some questions about OAE Screening.

Next, we're going to talk about the follow up protocol, which relates to everyone regardless of which method you're using.

We'll talk to some of the issues about follow up and communication with parents, and healthcare providers, And how to appropriately-support the follow up actions that need to happen.

And then we'll wrap up by taking a look at some of our additional resources that we have available, and, making sure that you know what else is available on our Web site.

(Next slide), we're going to organize our time around this left bar -- that you see on the left, so you can follow along which topic we're on, and this is helpful to -- to look at, too, if you're looking at this in the recorded format.

If you want to advance forward, you can see where in today's discussion we are.

By looking at that left menu bar; so, you've probably seen this graphic before.

We use it a lot to remind people that the work of the ECHO Initiative is based on the recognition that each day, there are young children who are Deaf or Hard of Hearing being served in Early Childhood Education and healthcare settings, often without their hearing-related needs being known.

Hearing loss, is often thought of as the invisible condition.

So the question for all of us, is, how can we reliably identify which children have normal hearing and which may not?

(A pause), TERRY FOUST, AUD, FAAA, CC-SLP/A: And the short answer to that, William, and to everybody, is that early care and education providers can be trained to conduct evidence-based hearing screening, just like you see here in these photos.

And 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 should recognize or will recognize the procedure on the left as otoacoustic emissions or OAE screening which is the recommended method for children, 0-3 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 procedure puretone audiometry hearing screening which is historically been the most commonly-used screening method for children three years of age or older which you'll still see in many early care, and education 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 healthcare provider or an audiologist with that ultimate aim of diagnosing hearing loss, if in fact, that exists.

And then connecting those children with the intervention services that they need.

So your screening program is the first important step in that process.

DR. WILLIAM EISERMAN: Some of you have asked whether you need to be satisfied to do screenings, and that tends to be a state-specific issue.

We don't know of any states that actually require that.

But there are some state guidelines that can influence your practice; and so we always encourage you to check that out.

A good way to do that is by connecting with your state newborn hearing screening office, or, what's called "the early hearing detection, and intervention coordinator" known by the acronym EHDI, or "[phonetic] eddy" and we have a link to those offices on our Web site, which I'll be showing you a bit, in a bit.

If you look for "find an audiologist" on our Web site, that's how you'll find the EHDI coordinator for your specific state to whom you can address questions like that.

Now, some of you have also asked about how we can more effectively encourage parents, to follow up when a child hasn't passed a screening.

Now, one way to share -- one way to do that is to share information.

About the incidents of hearing loss and the fact that a child's hearing ability can change at any time.

Often without us even recognizing that.

And so, let's just review some of these really helpful basic facts.

About three children in every thousand, are born with a hearing loss, Deaf or Hard of Hearing, Now, most newborns in the U.S.

are now screened for hearing loss using evidence-based methods, most of them before even leaving the hospital.

But screening at the newborn period isn't enough because the research suggests that the incidence of permanent hearing loss, actually, doubles between birth, and school-age from about three children in a thousand, at birth, to about 6 in a thousand by the time children enter school; so that's a really good fact for you to have in your mind, Ready to share with parents.

To reinforce the value of following up.

TERRY FOUST, AUD, FAAA, CC-SLP/A: So we can't only screen them for hearing loss at birth.

So, we -- we actually need to screen throughout early childhood, because hearing loss can occur any time as a result of illness, Physical trauma, Or environmental or genetic factors.

This is often referred to as late onset hearing loss.

Just meaning that it's --

acquired after the newborn period.

And, again, similar to subtle changes in vision, that can occur for any of us, a child, can experience a change in hearing ability, that we want to identify, so they have full access to language and then all of the information that they're -- they can be exposed to as they learn and grow.

(A pause), so screening is just that first step in the process of identifying a disability, such as hearing loss.

Now, since no screening method is 100% effective in identifying possible areas of concern; parent or caregiver concerns always overrides a passing screening result.

No matter what the screening method is, that was used.

>> DR. WILLIAM EISERMAN: Yeah, 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 caregiver expresses 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's true, even with the highly-reliable hearing screening methods we're talking about today.

TERRY FOUST, AUD, FAAA, CC-SLP/A: And we would also --

we also want to acknowledge, right upfront 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, as possible; you'll be faced, then, with the dilemma of what to do.

So here's our recommendation about that question, which some of you have raised.

If you aren't successful screening a child, then refer the Child to someone who can.

Often that's going to be a pediatric audiologist.

Just keep in mind sometimes the children that you may have difficulty screening, are, actually, the very ones who have a hearing loss.

So we don't want to skip them and just try next year.

(Next slide), DR. WILLIAM EISERMAN: So we just mentioned having a pediatric audiologist in the picture.

A pediatric audiologist, if you don't know, is a professional who specializes in the diagnosis and nonmedical treatment of hearing-related, and other disorders associated with the ear and the auditory system.

Terry's a pediatric audiologist, and he specializes in children, so having access to a local pediatric audiologist can really be helpful.

We recommend that all programs consult with a local audiologist, if at all possible to develop and oversee your screening and follow up activities.

They can be helpful with equipment questions you might have.

Consult with you about specific children who aren't passing your screenings, and importantly, they can be the -- they can be a valuable resource when you need to refer a child for further evaluation.

-- now, on our Web site, at [kidshearing.org](http://kidshearing.org), you'll find the link for find an audiologist.

Which should help you do just that.

And there are several different directories there, and as I mentioned before, going to your EHDI Coordinator for your state, the newborn hearing screening director, they can help you find local audiologists.

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Now, I just want to also mention here to all of us that some of you have submitted some very specific questions about error messages that occur on your particular piece of equipment.

And, while I -- I can so appreciate those questions, it will be difficult for us to address specific equipment....

Messages, and things like that.

In a group setting, remotely like this, but you can pose those questions to the person who sold you the equipment.

While equipment distributors, and salespeople --

Are not who you should look for, for the comprehensive training you need to develop your screening program, they can absolutely help you understand how your equipment functions, the error messages, and things like that; so having access, as William said, to a pediatric audiologist, And your sales rep, will really be helpful but for different reasons.

So, we encourage you to have their contact information ready for when you need it.

And then, sometimes, the equipment manual, which is now often online, or mostly online, can help you as well.

>> DR. WILLIAM EISERMAN: Hey, Terry while we're on that topic.

Some people submitted questions about screening children with PE tubes so let's just answer that question right now.

Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Oh, yes, yeah, let's, so, yes, you absolutely can, and should -- screen children who you know have PE tubes.

It's one way to, actually, find out, if the tubes are doing the job they have put in to do.

Children with PE tubes should pass hearing screenings, if the rest of their auditory system is functioning normally.

So for those of you that are using the OAE method, you'll want to look at your equipment manual, just to make sure -- in some cases you might have to push an extra button.

Or to adjust the setting for screening, an ear that has PE tubes so be sure to check that out.

As I said, some equipment does require a temporary adjustment, while other brands do not.

But the bottom line is: Yes, you can and should -- screen children with PE tubes.

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>> DR. WILLIAM EISERMAN: 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 OAE screening, which, you see here on the left.

if you're responsible for screening children three years of age or older, historically, puretone



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 in to one of the earphones, you see this method here on the right.

TERRY FOUST, AUD, FAAA, CC-SLP/A: Now, several of you have asked why some programs -- you may have noticed some programs are no longer using puretone audiometry with the three to 5 population, and have switched to OAEs.

And that's because there is growing recognition that although the puretone 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.

The research shows that 20 to 25% of children in that three to five age group, can't be screened successfully with this methodology.

Just because they aren't developmentally-able, to follow the directions reliably.

And that's really been our experience as well.

So in those instances, OAE screening is the preferred method for these children.

And as we emphasized a moment ago, we want to screen every child.

Even the ones we find challenging to screen, right?

DR. WILLIAM EISERMAN: So at a minimum, if you're establishing evidence-based hearing screening practices, for three to five-year-olds, and, if you're considering or are, using puretone screening: You'll also need to be prepared, and equipped --

To do OAEs on that 20 or 25% who can't be screened with puretones.

Or, alternatively, you need to have some other means for systematically-referring all of those children, that you can't screen with puretones, to an audiologist, who can perform the screening.

Which, frankly, can be a bit challenging, in its own right.

If you're -- if you've got 20% of the children you see that need to be referred to an audiologist, That could be kind of tough, because, audiologists don't have that much time to see that many children.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: You know, to simplify things, then, most -- more and more audiologists are recommending the use of OAEs, just uniformly, with all children 3 to 5 -- three years of age and older, and it's because it's quicker than puretone screening, and both to learn to do, and, actually, implement.

But really, it's far more likely to be a method that can work across the board, with all children, in the three to 5 age group you would be screening and it's equally as effective.

>> DR. WILLIAM EISERMAN: So if you or your program are undecided, or you're reevaluating this question, now that you're at the beginning of a new school year.

About which method to use primarily for children three years of age and older -- we want to encourage you to carefully review a document we have on our Web site that compares OAE screening and puretone screening with this three to five-year-old population.

It's -- it's a document that really helps you walk through the considerations of that decision.

Now, here's an important note:

Some states do have regulations about what methods are to be used, based on age. Requiring puretone for children three years and older. As at least, the primary method. So you need to check with your state if you're considering OAEs for the three to 5 age group. And -- and you can do that, again, by contacting your state's newborn hearing screening program. They'll be able to help you find those rules and regulations, if they don't know them right off the top of their head, which they very well may, you'll find that link on our Web site, which I mentioned. Now, on another note: We had a question about whether there are any other.... Recommended evidence-based practices, other than OAEs, or puretone audiometry. Are there other methods, Terry? What's your answer to that question?

>>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, there are not, these are the two methods that have been studied, validated, and -- and in use.

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>> DR. WILLIAM EISERMAN: All right, so Terry, I'm going to hand to over to you to jump into puretone audiometry.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Great, thank you so much. So let's jump right in. Into our first screening method, and review it. So, to conduct puretone screening, we're going to, first, take a look at the ear. We want to make sure that there's no visible sign of infection, or blockage. Now, by the way, you'll always want to do this first, regardless of what method you're using. So if the ear appears normal: (Sound of click), then use the screener, or going to instruct or condition the Child, how to listen for a tone. And then respond by raising a hand, or placing a toy in a bucket. And once you have observed that the child reliably responds to the sounds that are presented, just as you instructed, that's when the actual screening is started. During the screening process, this listen-and-respond game, is repeated, at least twice, at three different pitches on each ear. Noting the Child's response or 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. (Next slide), .

>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Now, again, as I mentioned during the screening process, this listen-and-respond game -- is repeated at least twice, at three different pitches on each ear. Noting the Child's response, or lack of response, after each tone is presented. (A pause), now, if the Child responds appropriately, and consistently, to that range of tones presented to each ear, the Child passes the screening.

(A pause).

>> DR. WILLIAM EISERMAN: We want to remind you of some things you want to be sure to address as you get ready to start screening a group of children, now, to begin with -- and this goes for everybody, regardless of what method you're using.

Be sure to refresh yourself on the resources that we've got at [kidshearing.org](https://kidshearing.org).

This is our landing page, (demonstrating) of [kidshearing.org](https://kidshearing.org), where you'll find a range of resources there, if you're needing to acquaint new staff, or to refresh yourself, so, we'll just have a look here, at the -- at the various resources we've got here.

Starting with big-picture resources, where to find the training, that is available online, both for OAE, and for puretone audiometry.

Those trainings are great to do, on an annual basis, Provide you with a certificate of completion.

And -- it's a great standardized way of making sure that everybody is reviewing exactly the same processes for each of these methods.

You'll find our screening resources, in the next group, where you'll find a guide- --

A checklist for preparing to screen.

Our protocol guides and forms for documenting screening outcomes, -- information on sharing results, including referral letters, in English, and then Spanish, Letters you can send to healthcare providers, or audiologists, with screening results, And even some recommended scripts about what to say when a child does or doesn't pass -- to parents, you'll also find some follow up resources there.

I also want to note, if those --

if there are some of you who are, actually, using, the online training up above, there are some new modules in there that review the documentation process and tracking process for a group of children; so you might want to go and have a look at those, if you're already registered for those courses.

(A pause), as you prepare for a round of screening, you'll want to walk through these steps to make sure, you have addressed each of these.

And you'll see here, that there are things about setting up the environment; Doing a listening check. On the equipment.

Just a variety of things to walk through as you -- you get ready to -- to screen, so be sure to look at that, and, again, that's available on our Web site.

As well.

so, you don't have to memorize any of that stuff.

Now, let's just walk through the process of screening, That you reviewed, Terry, as a refresher, And we'll address a few questions, some of you submitted to us.

This is the screening form that we provide for you to use, for puretone screening; which, actually, follows the recommended protocol exactly, step by step, and gives you an easy way to document each of the steps, As you go.

The first step, for hearing screening, is to conduct a visual inspection of the outer ear.

Now, in most cases the Child will pass at this point and you'll move on to condition the Child for the screening process which, Terry mentioned.

If the Child cannot be successfully-conditioned to provide that behavioral response to the presentation of sounds in the earphone another attempt to condition the -- the Child, can be made on another day. If the Child still cannot be conditioned, then, an OAE screening should be conducted; or the Child should be referred to an audiologist.

Assuming the Child is conditioned successfully....

Then the screening process begins.

(Next slide), TERRY FOUST, AUD, FAAA, CC-SLP/A: Let me just interject here, William.

We have received some questions about the conditioning process, in preparation for today's webinar.

Asking about how long the conditioning process should take.

So let me go ahead and answer that.

Children who are going -- who are going to be successfully-screened using the puretone method, they ought to be able to be screened in about 10 to 15 minutes maximum.

Including that conditioning step.

So the conditioning should not take more than five minutes, hopefully less.

If you can't condition a child in that amount of time, then you probably should consider using your back up plan, which is either to do the OAE, hopefully right there, right then, while you've the Child there.

Or you can try on another day, if you have the flexibility to do that.

But just remember, if you can't screen the Child, you'll either need to do an OAE, or refer the Child to someone who you'll --

who will be able to successfully-screen the Child.

Most likely a pediatric audiologist.

And as we said, earlier, remember that some children who have hearing loss could just be the very ones who are most difficult to condition to do the screening.

So, one way or another, we want to ensure that every child gets screened.

(Next slide), DR. WILLIAM EISERMAN: Assuming the Child is successfully-conditioned, the screening process begins.

Now, you can note that the form provides space to record the results of each ear.

Since puretone screening isn't automated, the form provides a reminder that for each ear up to four presentations of the tone can be made for each frequency level starting at 2000.

Then 4,000.

Then 1,000.

And that two responses are needed for the Child to pass for a given tone.

The screening begins by repeating the conditioning process.

(A pause), one more time.

And then proceeding.

From there, documenting the results for each presentation.

As you go.

Once you have completed the presentations across all three frequency levels, The form reminds you

how to determine if the Child passes, for that ear.

(A pause), the Child needs to have at least two successful responses, out of no more than 4 attempts at each frequency level, in order to have an overall pass.

And once that's recorded, then you screen the left ear.

(Pause), and you do that in the same way, recording each presentation, as you go.

(Pause), now, if one or more ears...

Doesn't pass, doesn't meet that criteria, like you see here on the right (indicating), then a second screening is going to be done.

Approximately two weeks later.

And the form reminds you to do that.

Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: William, let me interject with another question someone has raised in a previous communication to us.

The question is, what if a child does find -- does find, 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 this can absolutely happen so if it does, be sure to document as far as you got.

And then you can do one of several things.

You could use your back up method, the OAE instead; 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.

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>> DR. WILLIAM EISERMAN: Terry, you would have to do the same thing, right?

-- if there is a sudden increase in the environmental noise that's outside of your control, too, right, Terry?

If you can't continue to screen at that time, you would have to come back in another time, picking up where you left off?

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yes, that's right, if the Child is not able to be conditioned again, or remain tentative, then you should probably use the OAE method, or refer the Child to an audiologist.

And -- and I just want to emphasize an important point here.

And we've -- we've been doing that throughout today's webinar.

But, again, sometimes children with hearing loss are the very ones who are the most difficult to screen, so the last thing we want to do, is to abandon the screening process on those children, and just simply conclude that they cannot be screened without doing something else, whether that is screening with, the OAE, or making a referral to that -- the audiologist.

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>> DR. WILLIAM EISERMAN: You can guess, can't you?

(Laughing) why we keep saying that over and over again, because that, actually, happens a fair bit where, the very children that need the screening result, and an ultimate referral are the ones that don't get a completed screening and so we want to make sure that doesn't happen.

So let's say we do, successfully, complete the screening.

And we have one or both ears not passing at the second screening.

We want to make sure we indicate that on the form, and then, the Child is referred for a middle ear consultation, from a healthcare provider.

>> Now, for any child who is referred for a middle ear consultation from a healthcare provider you'll want to use this diagnostic follow up form on which you'll document the remaining steps in this child's screening and diagnostic process, starting with the results of the middle ear consultation.

So, since the Child was referred to the healthcare 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'll want to find out the results of this consultation and record them here.

Then, once the healthcare provider indicates that the ears are healthy and clear, then you'll want to rescreen the Child's ear or ears, that have not yet passed, and record those results.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: (Continuing) All children referred for a middle ear evaluation, must receive the rescreen on any ear that did not previously pass, so if, at this point, there is still an ear that has not passed, then the Child is referred for a complete audiological evaluation. And you're going to want to support the Family in completing this very important step and be sure are to get the results, document them on this form, you'll also want to collect any supporting documentation of the audiological evaluation results, especially if a permanent hearing loss has been identified.

So in most cases, this is going to include additional referrals for intervention services that you're going to want to be aware of, so you can support the Family in obtaining them.

DR. WILLIAM EISERMAN: So we do encourage you, even though we know many of you have moved on to electronic documentation --

to look at these forms, because, they do help you walk through the step-by-step recommended protocol, that we want to make sure gets followed; so, have a look at those.

So let's pause here for a moment and see if those of you who are using puretone method have any other questions about this method, preparing to screen, conditioning, Conducting the actual screening, or -- or documenting any of the results; and after we take a look at any questions you might have, we're going to move on to the OAE method.

>> DR. WILLIAM EISERMAN: (After a pause), so someone said, "I work with -- with children birth to 5 years of age.

So, can I use OAE for everybody?" Terry, you want to clarify that?

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, thank you for that question, absolutely you can.

And, so, some of the advantages that -- of that will be that, you know, in that... in that especially three-to-5 section of the children you're serving, there would still be, you know, that 25% we said that, wouldn't be able to complete the screening using puretone, for example.

So your OAE would be able to apply to them as well.

But, yes, you -- you can.

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>> DR. WILLIAM EISERMAN:

Somebody is asking about documenting with citations, what we were talking about, the doubling of the frequency of hearing loss between birth and school-age.

If you go on to our Web site, you'll find lots of background information, and, those citations from various sources, so we encourage you to -- to look at that.

(A pause), the next question is....

(A pause), DR. WILLIAM EISERMAN: What concern do you have about nonaudiologists screening with OAEs if they're not doing otoscopy first?

Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, thank you, we're not concerned about that.

There's actually training to be able to use otoscopy appropriately as well; and to be able to identify the -- the features you would be looking at.

And so, with lay screeners --

it's -- we are not using otoscopy.

And don't have concerns doing.

We just do a check of the outer ear as mentioned earlier.

And look for any deformities or drainage or any visible blockage.

But....

Almost -- I am not aware of any screening programs -- are you, William?

-- that have actually integrated otoscopy, unless it's used by other trained personnel.

>> DR. WILLIAM EISERMAN: Only if it's a healthcare provider, nurse, or healthcare provider --

The next question -- and then we're going to move on to OAE screening and it may be the perfect segue, is about, whether we have any recommendations for screening children with special needs.

Using either puretone or OAEs.

and Terry, I'll let you respond, but the first thing I would say....

How great it would be to have both options available.

And, of course, that would require children who are slightly older and developmentally-capable of doing puretone screening, But they may be very tactally resistant to having an OAE done, which requires a probe insertion in the ear; so, both options, can be really nice under those circumstances.

Terry?

Any other thoughts about that?

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Oh, completely agree, wonderful to have both options.  
DR. WILLIAM EISERMAN: So let's move on, then, to -- I'm going to just skip past our Web site here,  
and we'll look at this again.

Momentarily.

Oh!

But I do want to draw attention to this: Puretone screening skills checklist is available on our Web site,  
and this walks you through each of those steps that we just went through, as we walked through the  
process.

So this is always a good thing to have beside you.

Especially if you're just starting up again after you haven't done puretone screening for a while.

It's also a really nice checklist to use for....

new screeners, if you're monitoring how well they have done after the training.

Or for evaluation purposes, So, take a look at this checklist, and see how it may be helpful for you and  
your program.

All right.

Now, -- now we're going to turn our attention to otoacoustic emissions or OAE screening, as we have  
already said, this is the recommended evidence-based practice for children birth to three years of age,  
and increasingly being used for older children, as well.

Terry, talk us through this process.

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Okay, so, again, we're going to start in the same place,  
as we did with puretone to conduct a noise screening, we're going to take -- first, take a thorough look  
at the outer part of the ear.

Again, to make sure that there's no visible sign of infection or blockage.

If the ear appears to be normal and healthy -- (pause).

Then a small probe on which we have placed a disposable cover, is, then, inserted into the Child's ear  
canal.

And then a button is pushed to start the automated screening process.

The probe that sits independently in the ear, delivers a low-volume or quiet-sound stimulus into the  
ear.

And the cochlea or the inner snail-shaped portion of the ear that you see here -- a cochlea that is  
functioning normally will respond to this sound by sending the signal to the brain.

While, also, producing an acoustic emission, and this emission is analyzed by the screening unit and  
in approximately 30 seconds or so, a result will appear.

Either... as a pass.

Or a refer.

So every normal, healthy inner ear produces an emission that can be recorded in this way.



>> DR. WILLIAM EISERMAN: As you prepare for another round of screening, we want to encourage you to refresh yourself.

About what those steps are, and -- (pause), just as we showed you with the puretone screening. We have a screening skills checklist for OAE screening as well, that we would encourage you to download, and that checklist can be used, just as it can with the puretone screening: To refresh yourself on those steps; to walk a new screener through the process; and to make sure that they are following all of those.

So get acquainted with what we find on our Web site, here are the training tools and all of the other resources there related to puretone screening.

So have a good look -- or to OAE screening so have a good look at that, you'll see there on the -- on the bottom left, OAE skills checklist, and the puretone screening skills checklist.

Those are under follow up resources, so, go have a look at those, and -- and see, if they might be helpful for you.

and this is what that looks like.

Now, (pause), in addition to a list of the actual steps, you'll see a list of supplies that you need, so be sure to go over those to make sure that you're all set to go.

Be sure to test your equipment on yourself or others.

Importantly, on ears that typically pass, so that you're sure the equipment is working properly, in fact, we recommend testing the equipment on yourself, prior to every testing session.

If you haven't had the equipment calibrated in the last year or so, you'll want to do that.

To make sure it's working properly.

Regardless of what hearing screening methods you use, you want to make sure that you communicate with your parents and other program staff, whose cooperation you're seeking, are clear about what you're doing, and why.

Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Now, some of you have asked how to prepare children for a hearing screening and our main recommendation is to keep it fun.

Regardless of the method that you're using.

so, rather than referring to the activity as a screening, or a hearing test, call it a listening game, and you can engage teachers and parents in some activities that include noticing the Child's body parts, and including their ears -- and maybe expand on the idea that -- of what animals have ears as well.

>> Dr. William Eiserman: Yeah, and if you don't know -- we have a -- a short little video on our Web site, called "Listen up!"

That you can use with children, if you have access to a computer, and if this is helpful, and just setting the tone, you might want to play it or have, even the parents play it for their kids at home.

This is a quick, little preview of that.

[ON VIDEO] [MUSIC]

DR. WILLIAM EISERMAN: I'll hold you in suspense of what the rest of the little video is about. But take a look at it, and you'll find that hear under a variety of other resources we have for preparing to screen; so, take a look there.

It's right there under "preparing to screen" and that's where you'll also find our protocol guides, and forms.

Just like you saw with the puretone form, we also have forms for documenting the outcomes of OAE screening that follows the protocol directly.

So....

Be sure to take a look at those, as well as the other preparing to screen resources, That we're referring to right here.

We really did try to come up with -- as many things that people would need, on a daily basis, and running a preschool hearing screening program, so, certainly, before you go sit down and write a letter or develop a form, look at -- look at our Web site, and see if it doesn't already exist.

(Pause), Now, like many skillful tasks, competent screeners can make look -- make OAE screening look really easy.

But, no matter how much experience you have, we promise you, you're going to be met with challenges.

We are always challenged, and, a number of you have submitted questions about children you struggle to screen for various reasons, so, let's take a minute, and talk about some of those strategies for screening, We're going to start by looking at these pictures.

Now, the children you see in these photos, are all being screened using the OAE method.

What do you notice about where they're being screened?

(Pause), They get pulled out into an environment that's foreign or strange to them.

They're being screened in everyday educational or home environments, Where the children are, for the most part, already happily spending their time.

They're hanging out.

They're sitting in a snack table or playing with some toys in a corner, or even in their out-door play environment; and... those people...

Who are doing the screenings, are people they already know; they're teachers from visitors, or health specialists, and so, there's a lot of familiarity.

Already wrapped into this screening moment.

(A pause), DR. WILLIAM EISERMAN: So, in --

in fact, the screening works the best when children are familiar, and comfortable with the adult who is doing the screening, and, where they can play with a toy or be held, or, even sleep while the screening is conducted.

And we're going to talk about sleep as an option in a moment.

So we have lots of options.

Now, some equipment is more effective than others when attempting to screen in natural

environments.

We know this.

But most of them -- most of these pieces of equipment, that you can get, will work fine under these various conditions.

You may have to quiet the environment some.

But they should be able to be done in these moderately-noisy environments.

Now, there are several keys to successful screening.

Terry, you want to go over these keys?

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, so there's four main keys to successful screening that we want to talk about; and the first is to ensure that you have a good probe-fit. Second, we want to minimize movement; and then, we want to minimize internal noise, noise generated, from the Child.

And then lastly, we want to --

minimize external noise in the nearby environment.

Now, the -- the goal with probe-fit, the goal with the proper probe placement is that you have a really snug fit.

We want to seal out all of the noise from that background environment, So, this means you need to select as large as possible probe cover, so that when you insert the probe into the Child's ear, you can totally let go of it, and it will stay in place.

So you want the largest probe cover that will fit in that canal.

In fact, you have to let go, because if you hold onto it, your touch can actually loosen it, allowing more noise to get in and disrupt the screening process.

The whole system is designed to be self-seated, so you don't hold those probes in place.

So as long as you select probe covers, always aim for the biggest one that will fit in that child's ear canal.

It's no great secret of -- aside from experience and being able to make a good probe cover selection.

DR. WILLIAM EISERMAN: And you'll see in that photo there, that the hand is not holding that probe in that little boy's ear.

But you do see that clip there.

That is reducing the tension of that cord from pulling the --

the probe out of the ear, so, that's another really helpful way, of keeping that probe seated properly, in the ear.

Now, some brands of equipment have a compressable foam cover; which, tends to be the easiest to achieve success, so, if your brand of equipment has a foam cover option, You want to try those.

Especially, if you're having trouble with getting a good, snug fit.

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Let me interject just a moment, William.

Just a little aside about probe covers: You can only use the probe covers that are intended, or made

for your device; so even though you may see others on the market, you just only use those made for your specific brand of equipment; otherwise, you can get -- or will get -- inaccurate results. They are designed, and calibrated for their own probe covers.

>> DR. WILLIAM EISERMAN: Now, Terry, some reassurance is needed here.

Some people have raised a concern about their worries that they could hurt a child, by inserting the probe, or that when they're helping to support a new staff member, who is going through the process of learning, that -- that that new staff member, is expressing that concern.

>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, we really understand that concern.

And it's also the thing, with more experience, you'll --

promise you'll feel more comfortable about it after you've screened lots of kids, but just be assured that these probe length have been carefully-designed, so, that we can't insert them too far.

Now, a child with an active ear infection, they can experience -- they may experience pain with the probe insertion and that's one of the reasons why we want to carefully-inspect the ear prior to doing the screening, but otherwise, the probes will not go in deeply enough to harm the Child's ear.

>> DR. WILLIAM EISERMAN: So --

and the videos that you see in the -- the training, and, other resources we have on our Web site, demonstrate how to do probe-insertion, as you see in the photo here, and -- we pulled the outer ear back.

And then, insert the probe in the direction of the Child's nose.

And then, a little bit back with a slight twist to get it snug.

So -- and then we always do what?

We always let go.

(Laughing).

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: That's right, (laughing) you always let it go and it should stay put.

And you also want to make sure that the cord has been clipped up -- as you see in this picture -- up here -- to the Child's clothing.

One, to get it -- I always put it in the back to kind of get it out of their sight; but, really, it's to keep the weight of the cord off the probe.

So that the weight of the cord doesn't pull the probe out of the ear.

And these are two, essential things for getting and keeping a good probe fit.

>> DR. WILLIAM EISERMAN: Now, of course, as you screen, there will be times when you get an error message, and we referred to this earlier.

And we can't go through all of the different error messages that -- across equipment.

But we can give you some general guidance about what to do about error messages.

Because regardless -- of what the error message is -- you're probably going to do, the same thing, and

then try again.

(Pause), You're going to reposition the probe.

You're going to reduce external noise.

You're going to check the probe for wax and clean it off.

Or, even replace it with a new cover, if you need to.

And you're going to make sure the environment is as quiet as possible.

And you're going to try to settle the movement down of the Child.

So it's kind of good to know that even though there are different error messages that come up, the response to then is almost always going to be the same.

(A pause), and then last, you're going to use unique toys, you're going to try to distract the Child.

And you're going to just try again.

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>> DR. WILLIAM EISERMAN:

(Continuing), if you can't still have success, you can always elicit the help from another screener, and then, you know, if you really can't screen a child, as Terry has said over and over again, then you make a referral to an audiologist.

TERRY FOUST, AUD, FAAA, CC-SLP/A: So William, we've received a number of questions asking for suggestions on how to screen children, who are just challenging to -- to keep still, or for whom you just can't seem to complete a -- a screening.

So we'll go over some strategies, and then, if you have any additional questions we can take them.

So there are several strategies that will help make a positive -- make the screening a positive experience for the children, And, for you.

Again, I think I mentioned it earlier: You know, we really want to create a fun feeling around the screening activity.

So we want to position the Child and yourself, and other helpers in a way that's comfortable.

And allows the Child's behavior to be naturally-directed.

We want to use toys and distracters, and rewards effectively.

And then we want to document the screening results accurately.

So let's take a look at each of these for a moment.

So, first talking about creating that fun feeling: We want to --

we want to be sure to do that so creating a fun feeling around the screening involves establishing rapport with the children.

So for example: You may tell a child you're going to play a listening game and include another adult as the first person to be screened.

Placing the probe near their ear, and asking them for example, "Can you hear the little birdie sing?" If you're working with a group of children, ask the teacher for suggestions about which child might be the most cooperative and should be screened first, so that we can set that good example, and that tone for the other children to follow.

So they see a positive experience right upfront.

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>> Dr. Terry Foust: I do want to just say here -- and I think William will agree with me -- that in our experience, this is what I think you were all so great at.

We can teach technical skill, and which buttons to push, but that natural ability to work well with children, is something that we have admired when we've worked with many of you.

(Pause), .

>> DR. WILLIAM EISERMAN: Now when eliciting children's cooperation you still want to tell them what you are doing, rather than asking them if they want to participate.

Right?

TERRY FOUST, AUD, FAAA, CC-SLP/A: Oh, yeah, that's actually very important.

We don't want to give them the opportunity to say no.

So we say -- we don't want to say, can we screen your ears or can we test your ear?

We don't want to give them that opportunity, so you direct the screening.

>> You may even suggest to the other children that they may have to wait their turn, just like they would with other fun activities.

Assume it's going to be perceived as fun.

This can create the desire for them to participate, and, be next.

And be sure to use terms that describe the activity -- the activity as "fun" and "interesting", and avoid using phrases like "testing your ears" or "trying to be reassuring by saying it won't hurt" or won't be painful, because, they're going to hear the word "hurt" and "painful" and you're not going to like the response that you get.

TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, (laughing), exactly, thank you, William.

Now, in terms of positioning, you want to position yourself to the Child -- to the side of, or slightly behind the Child because that will give you good access to the ears to facilitate probe insertion.

If it's possible have another adult hold the Child snugly or keep the Child distracted or their hands occupied with another activity.

And -- it's great to sit on the floor at their level.

I do that often.

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>> DR. WILLIAM EISERMAN: Yeah, and you know what I want to insert here quick here Terry is these strategies are the ones you need the most, when we're talking about those littler children.

If you're the ones that are thinking about using OAEs with three to five-year-olds -- it will be a breeze.

It's really not hard to get them to cooperate with this.

You just give them something to look at or a toy to hold and it's not difficult.

It's these littler children that are more difficult.

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, they are, so having some good toys as distracters is always helpful.

You want to present new or novel toys and distracters, at the moment that you most need the Child's

cooperation, so if a child loses interest in one toy or a distracter present another one and have those ready.

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>> DR. WILLIAM EISERMAN:

Sometimes a gentle caress or playful touching game can distract the Child from the sensation of the probe in the ear.

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: And introduce something that captures their attention through another sense can help distract them from the sensation in their ear.

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>> DR. WILLIAM EISERMAN: Now once complete reward the Child with praise, and if desired, maybe a sticker or reward, making sure that the same praise and the same reward is given no matter what the screening outcome is.

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: It's also really helpful to screen in teams, so you can have one adult manage the Child, while the other one is focused on completing the screening. Now, we would like to show you a variety of strategies for engaging children in playful ways that will help you be successful.

As well as adding a few cautions about some common errors to avoid.

So a very important strategy is to keep that -- those little hands away from the probe.

So, we want to redirect the Child to manipulate an object; or to grasp an adult's finger or hand, but keep them busy.

And, offer the Child choices about where to sit, or what toy to play with.

But not a choice about whether to be screened or not.

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>> DR. WILLIAM EISERMAN: You can also familiarize the Child with the probe, before attempting to insert it into the Child's ear and you can do that by touching their leg or their arm, or their hand or their cheek with it; pointing out how soft it is.

You may even also have the Child's help in pretending to screen a doll, or a stuffed animal.

Sometimes, a young child will cry when the probe is inserted.

And you don't want to necessarily automatically remove the probe even though that may be your first impulse.

Instead, let the Child relax with the probe still in the ear.

Have the -- your finger close to the start button and be ready to push start the moment the Child is quiet.

Sometimes you can complete the -- the screening from that moment.

Even if the Child continues to be a little fussy.

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>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Now, if a child is uneasy about being screened but they

can be soothed by using a pacifier or giving them a snack, you can go ahead and attempt to screen while the Child is sucking or chewing.

It does introduce noise.

As they're sucking or chewing so the result is a refer, you'll need to repeat the screening, when the Child is not sucking or chewing.

But you can -- sometimes, still, be able to complete a screening, as it -- as they are sucking or chewing.

Now, another strategy to consider is screening in groups.

And this can help some children who might be fearful to become -- fearful about the screening to become more comfortable with the process.

As long as they're seeing that others are having a positive experience.

So like we mentioned a little earlier, you always want to try to start with a child that you or the teacher, is fairly confident will be cooperative, and set that positive example you're hoping for.

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>> DR. WILLIAM EISERMAN: Now we mentioned sleeping, sometimes children who have been treated, repeatedly for ear infections, or, other conditions, can be especially reluctant or resistant, and you may need more time, to watch other children participate in the process.

For -- to just get a little bit more comfortable with the whole idea of it.

But another option -- and this can be used with any child, whether they're reluctant about it or not.

Is to screen children while they're sleeping.

And so you can always do that, especially, with the -- the little ones.

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, actually you don't even need a reason to screen children while they're asleep.

It can be a great strategy that way.

So often used that.

Now, remember:

If you do not get a passing result, as long as the Child's cooperative, go ahead and try the ear again.

Making sure, like we mentioned that you have good probe fit and that you've minimized internal, external noise.

And, again, it's very important that once that screening is complete that you be sure to document the results accurately.

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>> DR. WILLIAM EISERMAN: Yeah, and in terms of documentation, this is our screening form, which follows the -- the protocol step by step, exactly; so if you haven't been using this or haven't been acquainted with it, we encourage you to take a look at how it walks through the complete process.

(Pause), so....

I want to make sure we have time to go over the protocols, so let's -- let's do that, and as soon as we -- we wrap this up, we'll open up for questions about OAE screening, or anything we didn't address about



puretoneing, puretone-screening, now, the screening and follow up protocol for -- for OAE screening, and puretone screening, is exactly the same.

>> DR. WILLIAM EISERMAN: And just keep in mind that our best efforts, at screening, are only worthwhile if we implement effective follow up, so take a walk-through of the follow up protocol and see if you have any questions about that.

(After a pause), so one of the good things to remember, is....

That the steps of the follow up protocol, are the same.

As I said, regardless of what screening method or how old the Child is, and there's one main rule to remember: The screening and follow up process is complete, when either the Child passes the screening on both ears, Or the Child has been referred to an audiologist, and you have obtained those results.

(After a pause), on the screening and follow up protocol and the accompanying forms we've got on kidshearing.org, walk through this process, step by step; so, if an ear passes the first screening, the process is complete for that ear.

If the ear doesn't pass, after several attempts during the initial screening session, We can't be sure why.

Sometimes, it's due to screener error; or a temporary condition, like a head cold.

So, it wouldn't be practical for every child, who doesn't pass, at that first screening to be referred to a healthcare provider, or an audiologist.

so, several Participants have asked, Terry -- what about a head cold?

Congestion?

Can affect screening outcomes?

This is where we might see that, right?

Can -- can you go over that, Terry?

>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, absolutely.

You know, -- and maybe, for example in the fall, it's cold and flu season, and -- and so, we may temporarily have that congestion or middle ear fluid but the -- the protocol, will walk us through that, and get the appropriate follow up and so, my recommendation, is follow the protocol.

>> DR. WILLIAM EISERMAN: Yeah, and so in two weeks we screen again and if the ear passes the screening is complete for that ear.

If, however, the ear still doesn't pass the screening, then further evaluation is needed, and we expect about 8% of the children, won't pass the second screening and, in fact, will need to have their ears checked by a healthcare provider, using what's called tympanometry, or pneumatic otoscopy, it's not uncommon for them to find wax blockage.

Or fluid or infection, in the middle ear has prevented the screening of the inner ear.

From having been completed.

So, what, then, Terry?

They're at the healthcare provider.

>> TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, so at this point, that's, actually, when you want to intensify your monitoring of the Child's follow up.

So, consult closely with the healthcare provider to find out, first, the results of the middle ear evaluation, and second: Any treatment that's being provided.

And, again, always document the results of that middle ear evaluation.

Now, this important point: Keep in mind since the ear hasn't yet passed the screening we still don't know if the inner ear or the cochlea is functioning properly.

And unfortunately, most healthcare providers do not have hearing screening equipment, and, therefore, cannot complete the screening process, so you'll need to confer with the healthcare provider about when that ear should be rescreened.

And then after the middle ear evaluation:

Go ahead and conduct a rescreen, And then, if the ear passes, the screening is complete.

If the ear still does not pass, that's when the Child should be referred to a pediatric audiologist for evaluation.

DR. WILLIAM EISERMAN: Less than 1% of the children you'll be screening will typically go this far in the process.

But, it will be helpful to inform healthcare providers, who are involved in the middle ear evaluation step, that they may need to make that referral to the audiologist should the ear not pass the rescreen.

You'll want to be sure, then, to support parents, and have the audiological evaluation completed.

To provide with audiologist with all of the screening and follow up health related outcomes and then to obtain a complete report from the audiologist's evaluation.

So that gives you an overview of the complete screening, and follow up protocol, and just -- you know, remember:

All of this is on our Web site, that you can review, any time.

And -- and keep in mind, too,:

That if children pass but parents remain concerned about their hearing or the Child's language development, always make a referral for an audiological evaluation, that's always warranted, and it overrides passing screening results.

All right, so we know we have a number of questions, That you are asking, so, let's look at... some of the questions that are coming in.

(A pause), Dr. William Eiserman.

In someone who has been trained to use the OAE, train a new staff, does it need to be a representative from an OAE company?

So our advice about this is that you want to make sure that everybody gets trained exactly the same way.

That -- that you don't end up passing on information like that, that telephone game, where, it changes

a little bit, from one person to the next; and then to the next, and then to the next.

And so, that's one of the reasons why we have a standardized curriculum available on our Web site to make sure that that is done.

So, we would encourage you to check out that; or, if you have a local audiologist, or somebody in your state that offers that kind of training to access that as a part of this.

As far as getting the training from the equipment supplier:

We kind of caution you about relying on that, as you're training.

Because, they're not really prepared to help you develop a screening program, or to develop screening skills.

It's kind of akin, to the way you might look at a car salesperson: A car salesperson will show you all the functions of the car; how to roll the windows up and down, and all of that --

All of that stuff.

The fancy features of the car.

Put But they're not going to teach you to drive or how to parallel park, so by all means, have a listen to what the manufacturer, or salesperson or distributor can tell you; they may get way over your head, and show you parts you don't even need to know about the equipment.

But you're going to need more training than what they typically can provide.

Terry, this next question is:

Q: Does holding the OAE tip in the ear, really impact results of the screening?

I find most of the tips, even when we try various sizes, just don't stay in the Child's ear due to most children not being able to sit still.

TERRY FOUST, AUD, FAAA, CC-SLP/A: Right so two thoughts here.

My first is that, yes, it does impact the results of the screening.

Often, when the Child moves that finger can, then, press the --

as they move, it can press that finger up against -- or the probe up against the ear canal and actually block it and then we would get a refer; and so, it -- they are designed to be self-seating.

And I do hear you with probe covers not staying in the probes not staying in the Child's ear as they move.

It is one reason that as William mentioned earlier, we've found those foam probe covers that we squish down, place in the ear and they expand -- to be self-seating much better than more of the plastic tips.

So if you have a foam tip option -- I would encourage you to use that if you can.

DR. WILLIAM EISERMAN: The next question illustrates one of the reasons why it can be really helpful to have an audiologist nearby, to consult with.

But, Terry, here's the QUESTION:

On our OAE equipment, there are settings that indicate protocol DP, where, you can....

Where it says you can pick between two S to 4S.

Do you know what that means?

TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, so we're getting into settings here that -- that, are really specific.

What we really want to do, is to use the basic screening protocol on your equipment.

And so, this is a great question for your program audiologist, and your -- and/or your equipment manufacturer but you want to use the -- the basic screenscreening option that is on there; there are all kinds of settings that change that you can change from adding different frequencies, To length of time that it screens.

And so -- yes, that does refer to the -- the amount of time that that probe is looking for the response. But, again, I would -- I would confer with your program audiologist, and/or the equipment manufacturer.

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>> DR. WILLIAM EISERMAN: On our Web site, which you see right here, under "planning resources" do you see the third one that says "screening equipment"?

We would encourage you to go look there, because we do offer some basic specifications on what you would want to have your basic equipment set at.

So that, you might want to refer to in addressing questions like this.

And others related to settings of your equipment.

To make sure that you're screening at the appropriate frequency levels, et cetera.

TERRY FOUST, AUD, FAAA, CC-SLP/A: William, there's a really great question that says, when screening a group of children, how do you clean the probe before placing it into another child's ear to be screened?

And that's what the probe covers, themselves, are for; so, again, before -- you always want to look at your equipment, check it out before you screen, and in between each child -- so look at that probe, make sure that it's not blocked in any way, you can clean that probe with a soft, moist cloth.

Always wiping away from the probe, the base of the probe, itself But the part that makes contact with the Child's ear is the probe cover, and those are one-use, disposable-only.

You can use the same probe cover for both ears of the same child, but never the same probe cover for multiple children.

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>> DR. WILLIAM EISERMAN: The next question is, can you give specific direction on where to find the forms on the Web site?

So, yes, on the Web site, right here, kidshearing.org, if you go under to where it says "screening resources", it's about in the middle of your screen there --

Right -- the second area that says, protocol guides and forms.

the next question: Every once in a while, I can't get the OAE to move from probe check screen, to the actual screening screen.

It is like the OAE doesn't know it is in an ear, what can I do to resolve this or can it be resolved?

Is it a fail or do I try again in two weeks?

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Great question, I'm going to start at the bottom or your last question, is it a fail?

It's not a fail, because we've actually never even moved to screen or collected any data from the Child.

Now, having said that, it's a common probe error message that you may get when the machine says, "I don't have -- you don't have a good enough fit", and there's too much noise getting in, and it's not able to progress from checking the probe fit to the actual screening; so -- so it is a common error; and usually, you want to refit and retry; however, what I am suspecting you are -- you are probably meaning -- is that, the machine seems to get stuck there.

And what I would do, then, is to completely shut it down, turn it off, and then restart it.

And because sometimes occasionally machines will get stuck there.

And hopefully that will help.

If you're not able to, then, go ahead and check your equipment operation by doing a check on yourself, and, if you can't get it to work, then it probably needs to be seen by your equipment manufacturer.

But --.

>> DR. WILLIAM EISERMAN: But we can really sympathize with those of you who are trying to use a piece of equipment, and sometimes, it does stuff that you just flatout don't understand.

and, that really is -- I mean, you can always e-mail us, if we can be of help.

But it really underscores why it is so nice to have a local pediatric audiologist, who can volunteer if possible, to help you out occasionally, with some of these moments where they could come and look at the equipment, or, help you with a given child, so, we just --

We really encourage, if there's any way to find that person, it's worth building the rapport with them to have them as a consultant to your program.

And a lot of people will work with -- with programs on a volunteer basis.

Given all that you're trying to do for children.

(Pause), we have one more question and then, in a moment, you're going to see in the chat field --

A survey that you can click on to give us a quick feedback on today's webinar.

And once you do that, it will generate a certificate of attendance for your participation in today's webinar, in case you need to document that you've been with us today, So that will appear in the chat, box here, in just a moment.

So, one last QUESTION:

Can a screening program -- this is kind of a review because we have talked about this.

Can a screening program move forward with only OAE for children under 5?

Or, is puretone always the gold standard for three to 5s?

Terry?

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>> Dr. TERRY FOUST, AUD, FAAA, CC-SLP/A: Yeah, great question, so it's historically been the gold standard for three to 5, but now that we have the option.

The gold standard really is...

to be prepared to screen every child.

And so, as we mentioned, ideally, if you have both as --

as options, wonderful.

But in order to screen every child, then, you can move forward with only OAE for children under 5. And then, of course, taking into account -- your -- you know, any health advisory programs, consultation with audiologists and your team, whatever it takes to get those approvals and your policies and things like that.

>> DR. WILLIAM EISERMAN: If you direct your attention, again, to this screenshot, on your screen, of our Web site, [kidshearing.org](http://kidshearing.org).

Under that first item that says big-picture resources, under there, you will find a document that compares OAE, and puretone screening considerations.

For three to five-year-olds.

If that's your question, you'll want to look at that document, and, then, make a decision with your health services advisory team, or whomever else is designated for your program.

(After a pause), we are at the bottom of our hour, and a half.

Thank you, everybody, for your time and attention today, for these excellent questions, More importantly, for all that you're doing, amidst everything you have on your list.

To focus -- focus in on monitoring the hearing status of children that you serve.

you know....

We put a great deal of emphasis on the importance of language acquisition in young children.

And hearing receptive language, is a critical part of that.

And, you seem to understand the importance of that, this isn't just, a requirement that needs to get checked off, doing hearing screenings, it is an important part of making sure that all children have optimal access to language, as they're learning language, and even a mild hearing loss or a unilateral hearing loss, that goes unaddressed, can disrupt that language -- that language-learning process, and their overall development, and -- as educational readiness, So thank you, for that, and, remember to pass that -- that idea along, Remember to pass that idea along to your colleagues and to the parents of the children that you serve.

Another shoutout of thank yous to our captioner, and to our interpreters today, and to our background support folks, Thanks, everybody, and Terry, of course, as always -- thank you!

Tomorrow: Is another webinar.

So, if you or you know of folks that are really needing to learn about evidence-based hearing screening practice for the first time, that's what we're covering tomorrow.

It's going to be more basic than what we talked about today.

But it will cover both OAE, and puretone screening to help people know about the basics of developing OAE, and, or puretone screening.

So, send people our way, and if they need to register, they can go to [kidshearing.org](http://kidshearing.org).

All right, the link is posted in the webinar chat field to do the quick survey and to get your certificate of attendance for today, thanks everybody, and know, today's webinar has been recorded and will be posted on [kidshearing.org](http://kidshearing.org), and [infantheating.org](http://infantheating.org) in the next couple of days.

Thanks everybody, And Gunnar, if we can just keep -- yeah, if you can keep the room open for a few minutes, so people have a chance to click on that.

That would be great.

Thank you.

(Concludes