

>>> We're going to start in a few minutes, you're in the right place for today's webinar, which is entitled identifying children with hearing loss.

The key role as a Speech-Language pathologist, in evidence-based screening and follow-up.

I wanted to talk for a minute here so everyone has a chance to adjust the volume and also to adjust whatever screens you need for your support with the interpreters or captioning options that you'll see on your screen.

If captioning will be helpful to you, you'll see a show captions option at the bottom of the screen.

Today's webinar is being recorded.

And it'll be posted on [kidshearing.org](http://kidshearing.org) and [infantheating.org](http://infantheating.org) in the next couple of days.

If anything disrupts your full attention or participation in the webinar, never fear, you'll have a chance to go back and review it again.

And keep that in mind, too, to those who may not be attending live who you think will benefit from today's information.

We'll start here in just a moment.

At the end of the webinar, there's an opportunity for questions, and also at the very end invite you to give us feedback on how we did today.

And that evaluation tool will generate the certificate of attendance to the webinar.

If that's of value to you, be sure to hang on so you can get your certificate of participation in webinar, that's at the very end.

I see it is the top of the hour.

Let's go ahead and get started.

Lindsey, I'll hand it over to you and we'll take it from there.

>> Thank you very much.

Good afternoon everyone, or whatever time where you're joining us from.

My name is Lindsey creed.

I'm an audiologist, I have the pleasure of working alongside with my friend to plan the webinar.

Today's topic is one that's deeply important to all three associations, and in fact, everyone who works with school age children or a school aged child of your own.

We all know the scenario too well of a child's hearing loss undetected or diagnosed late.

It is so important that we all stay up to date on best practices for school age screenings and hearings and work together.

So I want to thank you all for spending this hour with us today.

I'd like to pass it to Torey.

>> I'm the current president of the audiology association.

I'm a full-time audiologist in the state of Wisconsin.

As this week we're celebrating educational audiologist awareness week.

Which is an event that EAA created, to welcome and thank the odds of all the work we do.

This week, the focus is the benefits and importance of school based screening hearings.

This works great with your topic.

>> Thank you very much.

And I'd like to introduce our speakers.

First William Eiserman, he's the associate director of the national center of hearing assessment and management at Utah state university.

And the codirector of the early hearing intervention national resource center.

He has over 25 years of experience developing and leading the outreach or echo initiative.

Along with his colleagues, he's provided training and technical assistance, in international settings.

We have joining us Dr. Terry Foust.

Who's both a pediatric audiologist and Speech-Language pathologist.

Who's a team member of the echo initiative team since 2001.

He has extensive training and technical assistance to staff in nearly every state, including head start, early intervention programs and community health centers.

And he's provided technical initiatives in a variety of international settings.

So over to you guys.

>> Thank you very much.

And everyone at ASHA and EAA for collaborating with us today.

You can detect I'm coming off of, guess what, my turn, I had COVID.

My apologies for my raspy voice today.

We're excited to share our resources with you, we have focused largely on early childhood populations, and developed a wide variety of resources that support the development of evidence-based hearing screening and follow-up practices.

Realtime we have expanded that focus.

Not only on the pediatric early school age but throughout the school age spectrum.

So we're really excited to be able to reach out to different specialty audiences like yourselves to share the resources that we have and to also highlight the importance of the role that you can play in helping to identify children who have hearing loss of any degree.

As a part of your work with those children.

Now, before we dive into our topic, a few logistics of the webinar.

I want to give a shoutout to the captioner and the interpreters today.

We're really thankful to you, and everyone note that on the bottom of the screen, there's a show captions option there, if that would help support your participation today.

This webinar is being recorded.

So if anything disrupts your attention or participation, know you can access this in its entirety in the next couple of days on the websites, [kidshearing.org](http://kidshearing.org) and [infantheating.org](http://infantheating.org).

And also, keep in mind anyone may not be attending live with us today, whom you think might benefit as well.

At the end of the webinar today, we're going to open up a quick little evaluation tool so you can give us feedback on how we did today.

That evaluation will generate a certificate of participation for you, should you need something like that for having spent your hour with us today.

Hang around to the end, especially for if that's of value to you.

We're not monitoring the chat during the presentation today.

But we will open up for a Qa once we're done.

Be aware of that.

I'm joined today by my good friend and colleague Dr. Terry Foust, who as Lindsey said is a pediatric audiologist and Speech-Language pathologist.

Thanks Terry for being with me again today.

>> Yes, thank you, William.

He and I with many of the other echo team staff and local collaborators have provided training in almost every state.

The best part of that is the ability to participate with thousands of staff with head start and early intervention programs and other health education settings.

So we really appreciate to have all of you as colleagues.

We want to take a to -- a moment, what we're -- the follow-up on children that don't pass is something that many of us already do.

It's part of our daily and annual responsibilities and we have so much on our plates.

Because of this, we hope the information that we have, the resources that will offer.

We want it to make that easier for you.

And to make a the screening efforts as efficient as possible while maintaining the overall goal of being sure that children with permanent hearing loss is provided with the appropriate support and services that they need.

>> The work of the echo initiative, and you can click the button here, is based on the recognition that each day children who are deaf and hard of hearing are attending school and receiving various health related services often without the hearing related needs been known at all.

Hearing loss as you know, is often thought of as an invisible condition.

We have the question of how do we reliably identify which children have normal hearing and which may not.

I'll turn off my video so you can focus on more important things that my face.

All right.

>> Thank you.

The short answer is well known to William's question, the question of how do we know who they are, is really that we and other health care and education providers can be trained to conduct evidence-based hearing screening and follow-up practices here.

That you see in the photos.

As you know, the ultimate outcome of a hearing screening program is to identify children who are deaf or hard of hearing, who have not been identified previously.

Keep in mind that hearing is compromised at all degrees of -- you'll recognize the procedure here on the right.

The most common screening MEFT, and here on the left, you'll see the procedure Oae, and widely adopted as the screening in the 2000's.

And since then it's a useful method for screening early age.

To now screen the hearing of adolescentses with an adaptive protocol to look at the increased -- hearing loss in the kids.

So we're going to be talking about both methods today.

Just before we go further, I did want to talk about roles.

For those of us who are Speech-Language pathologists, there's great guidance in the ASHA practice portal in the hearing loss and children section.

That really defines our roles and responsibilities in regard to the screening.

I'll invite our colleagues from ASHA to jump in if there's anything you would Love to add here.

We perform hearing screenings, including both pure tone and Oae.

And then we refer the children to follow-up services, those are the children who don't pass the screenings.

And we document and report and communicate results to children and their families as well as programs and school representatives.

Perhaps state and public centers, just to ensure the appropriate follow-up.

One thing that I really appreciated from the American Speech-Language association is the emphasis on education as we provide services.

And that's really built into that with us and with ASHA.

So as Speech-Language pathologists who serve this population, and we provide hearing screenings, our code of ethics support us and specifically educated and appropriately trained to do so.

For those of us who are educational audiologists, we do all of the same things but the additions of the follow-up services that we may be equipped to provide for the full diagnostics and the management.

And we also supervise, modify programs.

You can jump in as well if you have anything to add here.

We always recommend that any program that serves and screens children that they have a partner audiologist.

So that's a consulting audiologist, but really somebody who can advise and train and mentor the program.

And ASHA recognizes that screening programs with the supervision of an educational audiologist, and more uniform protocols will result in more create screening results, and a proper diagnosis.

You'll hear us emphasize evidence-based practices today with three key components.

But the first of which is you'll see on the screen here is using recommended methods specific to age and developmental levels.

Otoacoustic emissions, I'll refer to Oae.

What we can tell you is no one screening method is perfect.

Both have their weaknesses and strengths.

As mentioned in the practice portal, it addresses this, it states that pure tone audiometry, Oae, and tympanometry may all be appropriate.

Automated versions of the screening tools may be -- used by audiologists, Speech-Language pathologists, and other trained screeners.

But really what that does is provide this wonderful opportunity to customize the tools and the protocols to the populations that we serve.

But what -- regardless of method, what really makes these methods here truly effective, are the other two key components here.

>> This is William, as Terry said, you'll hear us emphasize evidence-based practice today.

Which includes three key components.

The first is using recommended methods, specific to the age and developmental levels of the child who's being screened.

The next element is implementation of follow-up when children don't pass the screening on one or both ears in a recommended sequence or timely fashion.

And the third component is facilitating access to services.

These three elements are key to be sure that we're key to evidence-based practice.

All too often, most of the energy, time and resources is put in the first step of conducting screenings.

But all of those efforts are only as worthwhile as the capacity is to make sure that children who don't pass are getting the followup that they don't need.

The last component is the essential indicator of the evidence-based practices.

Those responsible for hearing screening need to report how many children they screened, what their pass and fail refer rates were, and very importantly, to report how many children were referred for evaluation, how many received the allegation, and how many were identified with the permanent hearing loss with what sort of support they're receiving in the school or community.

>> Yeah, exactly.

Thank you.

This is a heavy lift when you have all of these things to do.

We're not suggesting that this is necessarily our responsibility to implement.

But it's important to know what evidence-based practice includes, and to help you be effective in making sure that this is what happens for children in your practice or schools.

One of the things you'll hear us emphasize, is we want to make sure that we can help you think about strategies to make sure that your screening efforts are not solely focused on the screening efforts.

Are not solely focused on getting the screening done but the steps are done in a quality fashion.

That's the ultimate goal is to identify and serve the children with hearing loss.

>> And you know, one of the things I hope you'll keep in mind as we continue today, is we're obviously what we're talking about has to do with your own activities as you work with children.

But if you work with schools RG to advocate for evidence-based practice in school based screening efforts.

The follow-up piece is often not as robust as we would like to see it.

So, let's go on.

Let's start and set the stage with a quick review of the auditory system.

Terry, walk through this.

>> Thank you.

And so this will also give you a flavor of some of the materials available on the website that you can make use of.

As you know, there are three main parts to the auditory system.

Outer ear, the middle ear and the inner ear.

And so, when sound enters the outer ear it causes the eardrum vibrate, and that causes the three small bones to move, and to -- the cochlea, and from the inner ear the sound is carried along special nerves to the hearing center of the brain.

This is how it typically functions, that can be some exceptions.

Wax blockage, or we can have fluid in the middle ear, caused by infections but the primary target condition is the functioning of the inner ear.

The cochlea.

And in some instances, the sound travels through the outer and middle ear but it reaches the cochlea, the signal is not transmitted to the brain correctly, resulting in a hearing loss.

In this condition is usually permanent, and the primary condition in which we're screening.

This is a key point of screening.

Let me give you an example.

The auditory neuropathy spectrum disorder, is a rare disorder.

It's called ANSD, can be missed by Oae as they're typically present in ANSD, and become a hallmark and important factor in diagnosing it.

But ANSD is constantly missed by pure tone screening because it doesn't measure neural -- the auditory brain stem is a diagnostic tool for ANSD but it's not feasible to use to screen in mass, screen children in mass with Abr.

But we do have the other good objective screening tools that have effective for population based screening.

Now in addition, we need to screen throughout the childhood because hearing loss can occur anymore as a result of illness, physical trauma, and which for example in the adolescents can include noise induced hearing loss.

>> Permanent hearing loss is often as we said, called the invisible condition.

The most common birth defect, affects three in a thousand births.

And the incident doubles to about six in a thousand by the time children enter school, and then increases steeply to about 50 in a thousand in the school aged years.

We always want to point out that hearing loss may be invisible, these children simply cannot be invisible themselves.

They need to be seen.

>> Can you repeat that?

This is really new to them.

That hearing loss actually increases in school aged children.

>> Yeah, it's not a commonly understood set of facts about how it doubles between birth and the start of school and then goes up steeply to 50 in a thousand of the school aged years.

Many of the health care providers are not aware of this.

And people in schools are often not aware of this.

And people in the Speech-Language pathology community may not be aware of the stats too.

We want to arm you with the important information to justify the time and expenses to make sure that establishing hearing status is a critical component to anything else you might be doing with a child.

Particularly if you're related to the child's speech or language.

One of the reasons that hearing loss is called the invisible disability is because it's not easily observed and can be easily disguised by the chirp they mean.

Children with -- children themselves.

Using subtle visual cues, or turn to the source of the sound or simply copy the peer's behavior even though they may not have heard the sound or not understand what's asked of them.

They may be challenged in ways that we cannot immediately recognize.

They fall further and further behind, and even then as they start to appear on the radars, if they haven't had appropriate screening and follow-up, they're at risk of being misdiagnosed and having a learning disability or being on the autism spectrum.

This happens all too often.

We have seen it ourselves, our earliest findings in the echo initiative demonstrated this.

Among the children in the earliest studies, many were already enrolled and anybody evaluated or considered hearing.

This is a problem we continue to see today.

We invite you to be a champion for this.

All the speech therapy in the world is -- for the unidentified hearing loss.

And that underscores the value of the -- having quality hearing screening and follow-up and the role that you all can play in advocating for the quality services for all children.



Especially those that are in special education services.

Keeping in mind that there maybe probably be not be anyone else in the life of these kids who are even thinking of hearing, other than maybe you.

>> Thank you.

>> Let's talk about the first component of evidence-based hearing screenings.

Which is the appropriate method.

Keep an eye on the clock so we have time for some questions.

>> Thank you.

As we mentioned previously, pure tone audiometry and prescreened -- is what we're talking about today.

Let's dive right in.

We haven't to briefly touch on this.

There's things like ringing a bell behind a child's head or depending on a caregiver's perception of the hearing -- we have and do see it happening in early childhood settings.

As many of you might be supervising screening programs, you may have programs that still use like the sound makers or the questionnaires in some fashion.

Don't get me wrong, observation to a child's response to sound is respectful, and we should pay attention of how the child responds to their environment.

But these observations are far too crude and unreliable, and we can do better than that because of the technology that we have.

>> Let's talk about the pure tone audiology -- pure tone gives us a good idea of the system, all the way to the brain with the child showing an indicator that they perceived the sound.

It's a relatively affordable method.

The equipment is durable and portable, enabling us to transport it and using it in a variety of situations.

And a wide variety of individuals can perform.

Here's an excerpt from an online training courses, that demonstrates the pure tone method.

To give you a taste of what that's like.

You want to play that?

>> To conduct pure tone screening we first take a look at the ear to make sure that there's no visible sign of infection or blockage.

If the ear appears normal, the screener then instructs or conditions the child how to listen for a tone and respond by raising a hand or placing a toy in a bucket.

Once the screener has observed that the child reliably responds to sounds, just as the screener instructed, the actual screening has started.

In 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, the child passes the screening.

>> So we know for many of you, you already know all of this.

So why are we taking our time reviewing this?

One is because we want you to be aware of there's training resources for you or others who will benefit from having an comprehensive training and evidence-based practice.

The screening practice, it includes multitude specific steps that has to be followed in sequence for it to be valid.

This may be second nature to people, maybe you forgot what it's like to initially learn it.

This is tricky for people to learn.

And they can make a wide variety of mistakes.

If they're not carefully trained and monitored over time.

>> I might interject too, that a lot of us may have been doing this for quite a while.

It's important to get refresher training on an annual basis.

>> In addition to the online training that we have.

We have a variety of resources on [kidshearing.org](http://kidshearing.org) for implementing evidence-based practices.

We invite you to check out the resources, lots of practical tools that'll help you implement screening programs.

We'll show you a bunch of things in a moment.

Like many tasks that look simple enough from an observer's perspective, conducting pure tone screening is quite complicated.

And there are a variety of mistakes that can invalidate the screening.

Terry, what are some of those mistakes that we have seen over the years?

>> You know, we won't go through each one but I may highlight a couple.

Look at number four, for example.

Providing visual cues.

We have run into number nine, people who have actually make some informal decisions of the noise level of the room and start raising the volume for the past level.

And then, number 12, I'll end there that often we assume that children who don't pass is getting the follow-up screening and the diagnostics screening that they need.

But we have not seen the evidence that that has happened.

>> We can't highlight enough the important role that you all can play in making sure that assumptions are not being made.

Because a school may be saying they're screening all their children, every year or every other year or something, are they following up?

Do they know how many children were actually identified?

Our experience has been that that information is not easy to come by, for always.

You can be a champion for raising the bar around the accountability piece.

All for the benefit of children, and that goes for Oae and pure tone.

But that's pure tone screening in a nutshell.

When using pure tone screening, there'll be a percentage of children depending on the age of the children, who won't be able to be conditioned or actually complete the screening.

And it's really never acceptable to simply delay the screening of a child to a later time.

Though that happens a lot.

In the younger populations of 5 or 6-year-olds, we wouldn't will surprised if they could. Be screened.

That other way is what?

>> It's Otoacoustic emissions.

That's the screening in the photos.

This is the recommended screening method for children from birth to 3 years of age.

You'll see in a moment the speed and ease of the screening is causing many methods to have that.

To have the backup so they won't miss completing the screening for those who can't participate in the pure tone audiometry.

>> We have something on the website, [kidshearing.org](http://kidshearing.org), that compares Oae to pure tone in a practical way.

To help you think about the different considerations of what it means to use one or the other.

Oae's can be used as a backup for the pure tone, at a minimum if people are using the pure tones, they'll have to have another method or the ability to send all of the children who can't be screened to an audiologists.

But some programs are using Oae's for all of their children.

One of the things we Love of Oae screening, we and screen children in a wide variety of environments.

What do you notice in the screens here?

The photos here.

Can you go back one slide, Terry.

What do you notice here?

They're screened in the environments where they're already participating.

That's one of the beauties of Oae screening, we can take it to so many different locations.

They don't have to be in a scary and unfamiliar environment.

>> In fact, the screening works best we found when children are familiar and comfortable with the adult that's doing the screening and where they can play with a toy, be held, look at a book or sleep while the screening is conducted for the younger kids.

But being able to pack it up and take it to where you no, I did not to go, can -- the time it takes.

With school aged children, it's usually really, those that we need to use Oae's on is usually a breeze taking a few minutes a child.

>> Here are a couple of examples of the hand held Oae devices out there.

Two of these devices have the Oae and pure tone on them.

They're about the same price of the other Oae devices.

You might want to be aware of that.

Let's talk about the pure tone method.

So folks have an understanding of it.

>> Thank you.

Oae screening is fully automated.

Once we start the screening, the equipment will independently complete the process.

Your job is to set up the environment, insert the probe in the ear and then manage their behavior if you need to.

So conduct the Oae screening, take the first look of the outer part of the ear.

>> Here's a quick example, on Oae screening.

So can you click that?

>> A small probe is placed in the ear canal that delivers a low volume sound stimulus in the ear.

A cochlea functioning will accepted a signal to the brain.

This emission is analyzed by the screening unit and in approximately 30 seconds the result is displayed as a pass or a refer.

>> Why don't we jump down to slide 39.

The beginning of the protocol there.

There we go.

The next component in our evidence-based rubric here, is to make sure that not only are we using the right method, but we have a followup system.

>> One good thing to remember, is the steps are the same regardless of the screening method or the age of the child.

>> That's right.

There's one main rule, the screening process is complete when either the child passes the screening on both ears or receives the evaluation and you have obtained the results.

>> That's right.

We want to caution everyone, that the screening process is really critical that a screening process is not completed just because the referral is made.

Those are the only conditions to say the screening is done on a child.

>> The protocols are done in training, but I'll walk through this quickly so you know it's there, and you can go back and have a good look at it.

Here's how the screening and follow-up process unfolds.

If the ear passes the first screening right off the bat, the process is complete for that ear.

If the ear doesn't pass, we can't be sure why that happened.

Sometimes it may not pass due to screener error or a head cold.

So it may not be practical to be referred to an audiologist.

So if an ear doesn't pass the first screening, instead of making an immediate referral, wait two weeks and we screen again.

And by the way, if one ear passes the first screening and the other doesn't, we typically don't rescreen the ear that passed a second time.

That just confuses people.

If the nonpassing ear passes the second screening, the ear is complete.

If however, the ear still doesn't pass at the second screening, this is where the further evaluation is needed.

We often see 5 to 8% of children won't pass the second screening, and will need to have the ears which he could by a health care provider.

>> It's not uncommon that a wax blockage, fluid or inflammation in the inner ear is preventing the screening.

>> That's right.

>> At this point, you want to really intensify the monitoring of the child's follow-up.

Consult closely with the health care provider to find out the results of the middle ear analysis.

And we want to monitor the results of the evaluation.

If the ear still hasn't passed, we don't know if it's functioning properly.

They can't complete the screening in office, you need to confer with the health care provider.

>> After the middle ear evaluation, you conduct a rescreen, but keep in mind, this is a small fraction of the number of children you're screening.

Usually, less than 8 of a 100 children will need the follow-up steps.

But these are essential steps.

So you rescreen them after to the health care provider.

In most cases they pass at this point.

>> Given that most of you, many of you may be familiar with this, and have the training and the especially those of you educational audiologist, if you have the ability to do more in the evaluation of the middle ear evaluation yourself, you can do that the first time that your child doesn't pass.

If you do see signs of infection or blockage, stick with the sequence of protocols here.

If you don't have those issues and you've screened the ear a second time, move on to the next step in the screening protocol.

Which is the child should be referred to a pediatric audiologist for evaluation.

This is where the level of concern is heightened, we don't think there's a middle ear condition to explain why the child didn't pass.

That's typically what's addressed or ruled out.

>> May expect less than 1% of children has to go this far.

Look at our referral letters and forms that follows this protocol, and you're welcome to use these.

They're anchored in that overview of either the child has passed or they've been to an audiologist and you have the results.

Terry, let's talk about slide 58.

And then wrap it up here.

The questions to address.

Here are some of the questions to address, don't assume a negative results letter will lead to action from parents.

What can you and others in the school if you're in a school setting do to facilitate the followup steps?

Who's help can you enlist in this process?

To make sure that the follow-up steps are supported by the family.

Give some thought to that.

This is where a lot of it breaks down.

We can spend a lot of time talking about frequently levels and equipment selection and is all of those things are important.

But so are these points in the screening and follow-up process.

Having a log of all of the children's results that tell you clearly where each and every child is in the follow-up process can really help to make sure that no one slips through the cracks.

We have developed the resources and they're free to use from the website [kidshearing.org](http://kidshearing.org).

That's the next slide there.

Thank you.

Let's go to the next slide and show you the landing page and we'll open up for questions.

But this is our landing page at [kidshearing.org](http://kidshearing.org).

The first set of resources is the planning tools.

There's a variety of resources helpful to those in the community of setting up the program, selecting screening equipment, that's where you'll find the document I referenced earlier about comparing Oae's and pure tones and how do you wrestle out the decision of do we use them both in tandem in older children or make a universal change over to Oae's.

There's a useful document I think you'll find helpful.

And the next group of resources, you'll find access to online training tutorials.

Have a look at that if you're needing a way to make sure that you or others in your world need to get the trainings and to make sure that everyone is getting the same training when they need it.

The next group of resources are all practical, preparing for screening, check lists for getting ready for a screening day, there's resources there for documenting the outcomes, for keeping track of children who are not passing, the protocol is outlined in daily, with referral letters and the scripts of what screeners may be instructed to say to parents at different points in the follow-up process.

Have a look at that, and the last group of followup resources, that's where you'll find the tracking tool.

That's a smart spread sheet that into which you can enter the children you're screening.

It follows the protocol exactly.

You can tell when a child is complete and when they have another follow-up step.

Have a Look resources.

So, questions.

Let's have a look at your questions.

And see if we can be responsive.

Be way of reminder, we'll put up a link in a few minutes for you to open up an evaluation of how we did today that will also generate a certificate of attendance in the webinar.

If that's of use to you, we hope you'll hang around to do that.

The first question, my district uses third parties, recently they have changed to consent and process.

How do you suggest ever coming only 10% of kids in early elementary with getting screenings.

>> That's a great question.

When William and I -- as he eluded to, the early phases of the echo project we're volunteered in, education, we went into many settings.

And almost had to convince ourselves that the screening, but now we have just such wonderful data bases and results of the effectiveness of it.

I would ask William and perhaps Lindsey and torey, if they have suggestions of advocacy and other ways to help change that.

I'm sorry you're all muted.

>> I was talking.

I'm going to jump in first.

I think education is a key component to all of this.

Some of the information that we presented today about incident and how hearing loss can change over time.

All of those reasons we need to raise a flag so parents want to have their children screened on a regular basis.

They don't minimize the -- of it.

Hearing is obviously tied to everything.

And obviously, unidentified hearing loss will be eventually connected to everything else.

>> This is Lindsey and I'll put in the chat a link to the wonderful resource page that Eaa has created for educational audiologist awareness week.

>> Yeah, okay.

So thank you.

The next one is after failing the first time, they need to be sent to a primary health care provider to check the middle ear and after they're treated and we rescreen and they fail again, we refer to an Ent?

You want to briefly clarify that?

This is why the screening is important, if you could clarify that.



>> Yes, we went through the first process, sent them on to be a middle ear evaluation with the primary health care provider.

We rescreen, and again, refer.

At that point, we want to pull in the audiology colleagues and consult with them.

That'll be reflected in the protocol.

>> The next question is our Oae doesn't screen 500 or a thousand.

Can we use just that for a screening if the child can't do the pure tone screening.

>> Yeah, we want to make sure that the screening parameters and that's where the consulting audiologist can help with the equipment.

With 500 Hertz, there is a lot of dialogue and talk, and pure tone may not adequately screen that either.

We typically do one, two and four.

>> The next question, and realize we're at the top of the hour.

We'll hang on for another couple of minutes and then we invite you to email us to continue our dialogue.

I don't know if we'll get to all of the questions, unfortunately.

But the next question is what is the best way to screen children with multiple disabilities at school?

>> It's really being able to adjust to the population of the screenings, and I always go ahead and attempt to screen them with Oae's.

We have had success with the children on the autism spectrum there, either we can get them interested in the machine themselves or have them doing something that they're fixated on or interested in.

I always recommend we try all the tools and the Oae's are often successful there.

>> One participant asked to review our data.

I'll clarify this.

I have some -- all of our data, the hard list largest data set is on children in the perinatal birth to 3 age group.

Birth to 3.

In that age group, we typically see about 25% don't pass the first screening.

Then we rescreen them and it goes down to 8%, who still don't pass at the second screening.

And then there are -- they have a middle ear evaluation and then they're rescreened again and about 1% are referred to an audiology evaluation.

A fraction of those children are identified with permanent hearing loss.

>> Do you mind?

If I take the last question.

Are you suggesting high frequency testing for older kids?

Yes, for example, the use of Oae's we can adapt a protocol to include 8,000 Hertz.

And that makes it a wonderful tool for Illinois induced hearing loss in older kids.

>> If you're able to pin me back on the screen, I'm back.

I want to at everyone, and thank you all for participating with us today, thank you to ASHA and Eaa.

Lindsey and torey, thank you very much for the time and efforts that you put too helping us to make this remember nar available to the interpreters and the captioners, who are not specifically acknowledged but they're real people doing work that we value.

And to gunner, our background tech person, and to all of you for all the thing you juggle for the benefit of children and families.

We hope you'll join us in being real advocates for evidence-based hearing screening and follow-up practices.

That you'll never serve a child without knowing their hearing status.

And that you'll make sure to the greatest extent possible that evidence-based practice is striven for and accomplished in the various settings that you might have an influence over.

This webinar is recorded and will be on the website [kidshearing.org](http://kidshearing.org).

In the next couple of days.

Share that with folks that may not have been in attendance today.

You'll be able to go through it and look at the slides that we have had on the screen to pause and think about them.

And of course, go to [kidshearing.org](http://kidshearing.org) and check out the various resources there.

Give it some thought.

Maybe you want a conversation with your team of the issues.

Watch this again, and know you can contact us through the website, [kidshearing.org](http://kidshearing.org).

Anymore.

We're here -- anytime, we're here to support best practices.

Thank you, everyone.

Any closing words?

>> You probably saw, we were so excited we had so much information to share.

Appreciate your time.

>> Yep.

In the chat box you'll see the survey of certificate, the certificate of attendance, so take a look at this, and you'll complete it and get your certificate on the screen before you sign off.

And it'll also be emailed to you.

All right?

Thank you.