

DR WILLIAM EISERMAN:

I think we will go ahead and get started. What you say, Terry?

DR TERRY FOUST:

Let's do it.

DR WILLIAM EISERMAN:

OK. Gunner, if you can reveal to Terry and me the responses to the questions. That would be great.

OK, great. We have a great diverse group of people. A lot of Headstart folks, home visiting, preschool, healthcare providers and a few EHDI folks. Thank you for that!

I need to... Close that out. So, I would like to welcome everybody. My name is William Eiserman. I am the director of the Early Childhood Hearing Outreach initiative, also known as the ECHO initiative at Utah State University. I am also the associate director of the national Center for hearing assessment and management, which is NCHAM at Utah State University. For about 20 years, since 2001, the ECHO initiative served as a National Resource Center on Early Hearing Detection and Intervention,

with a focus on supporting Early Head Start and Headstart program staff.

Also, including evidence-based hearing, screening practices. We are delighted to be able to continue to make our resources and learning opportunities available to staff from head start programs, as well as anyone from early care and education settings who can put these to use.

This webinar was scheduled to occur sometime ago, as many of you know, and we had quite a frustrating technological collapse on the day that this was originally scheduled. So, we are thankful that you give us another chance and are back with us today.

This webinar is going to be repeated, yet again, on February 8. So, if there are others who you think might benefit from this at that time, keep that date in mind. In the meantime, this webinar is being recorded and will be posted on infanthearing.org in the next couple of days.

One way or another, you and those who you might know who can benefit from this information that we are covering today should be able to access this either by attending live – like you are today – or through our recordings on our website.

So, I am joined today by Dr Terry Foust, who is a pediatric cardiologist and a speech language pathologist, who serves as a consultant and trainer to the ECHO initiative, and has done so since the very beginning of our project. Terry, you want to say hello to everybody?

DR TERRY FOUST:

Yes, thank you, William. William and I, along with a lot of other ECHO teams, staff and local collaborators such as yourselves have provided training in almost nearly every state with thousands of staff from Early Head Start, Headstart, American Indian and Alaska Native and Migrant Head Start, and other early care and education programs over the years we have been doing this.

We are always encouraged, just like we are here today, but huge amount of interest there is in establishing these evidence-based hearing screening programs so that children with hearing related needs can be identified and served.

DR WILLIAM EISERMAN:

The work of the ECHO initiative is based on the recognition that each day young children, who are deaf and hard of hearing, are being served in early childhood education and healthcare settings, often without their hearing related needs be known.

Hearing loss is often thought of as an invisible condition. So, how can we reliably identify which children have normal hearing and which may not?

DR TERRY FOUST:

Well, William, the short answer to that question is that early care and education providers can be trained to conduct evidence-based hearing screening, which you are seeing here depicted in these photographs.

The ultimate outcome of the hearing screening program is we cannot defy children, who are deaf and hard of hearing, who have not been identified previously so the procedure – on the left, is called Otoacoustic Emissions, or OAE hearing screening. That is the recommended method for children birth-three years of age, and increasingly recommend it for children 3-5 years of age as well.

On the right, you will see the procedure Pure Tone Audiometry Screening hearing screening. That is historically the most commonly used method for children three years of age and older. You will still see children and many early care education settings, and providers in those settings are using. We are going to be talking about both of those methods today.

DR WILLIAM EISERMAN:

Let me give you a quick overview of what we are going to cover today. At the end of today's presentation, you will have an opportunity to complete an evaluation, and also get an immediate certificate of having attended today's webinar.

So, our goal is to provide an overview of the big picture of what is involved in implementing evidence-based hearing screening for children across the age spectrum of birth to 5 years of age. We are going to start off by giving an overview of the auditory system, or hearing system, which will help lay a foundation for understanding how the hearing screening methods work.

We are going to explain why we screen for hearing loss, what makes it possible to get those engaged in systematic screening? Then what about the two methods Terry just mentioned: OAE and Pure Tone Audiometry Screening starting off with an overview of the OAE screening process, followed by a overview of the Pure Tone Audiometry Screening process.

Next, we will address the important question: what we do next when a child doesn't pass a screening? We will summarize the follow-up steps that are undertaken, when a child doesn't pass a hearing screening on one or both ears.

We will wrap up by showing you how to access resources to support the process of developing and maintaining your hearing screening program, and address any questions you might have.

Now, this webinar is not a training. It is an overview. Part of it will be to point you to where you can get a full, thorough comprehensive training. That is where we are going and you could follow these topics on the left-hand of your screen. Since this is a prerecorded webinar, this left-hand menu will be helpful if you want to navigate to specific portions of this presentation to review again or to share with others.

So, before we launch into our primary content, I want to make sure you all know where to go after today's webinar to get these additional resources, information and importantly, to access training.

You will hear several times today: implemented evidence-based hearing screening practices is more than using a designated piece of equipment, or a specific method. To implement evidence-based practices, that equipment or method must be used according to a prescribed set of steps under

carefully controlled conditions – each step of which is carefully documented in detail.

This is true whether you are using Otoacoustic Emissions screening or Pure Tone Audiometry Screening. Over the years, the ECHO initiative has developed a wide range of resources help you achieve the goal of implanting evidence-based screening.

Our goal today is to help you find that information, and the resources that you need, and to make it easy. So right off the bat, you know where to go, what to go there and what you're going to find when you go there.

This is our website: kidshearing.org. You notice when you scroll down, there are a set of resources that are really designed for specifically frontline program providers, direct providers of services. If you haven't yet engaged in implementing either of the methods that we are talking about today, you will want to spend some time looking at the planning resources drop downs, and the various resources that are there.

Once you have planned your program, you have obtained equipment, you found an audiologist may be to help support your activities, the next step will be to access comprehensive training. And this is where you will be able to be pointed to some online training opportunities for either OAE or Pure Tone Audiometry Screening. What we point you two here is based on the ECHO initiative used to provide in live settings.

It is comprehensive. So, if training is needed or wanted his in need, this is where you can go to find out about that. Once you are implementing – whoops – once you are implemented in your actual screening programs, subsequent to training, there are additional resources here for the daily activities of screening.

That has to do with things like your daily checklist of materials you will need, screening forms, letters that you can send out to parents, referral letters – all of the things you need to do to actually implement the day-to-day screening program.

And then there are follow-up resources that you can use, most specifically, a tracking tool for tracking a group of children through a screening and follow-up process. All of those resources are relevant to either OAE or Pure Tone Audiometry Screening.

So, we encourage you to take a look at these resources once we are done today. Again, that is at kidshearing.org. We will show you again as we go. Let us dive in.

Let us talk about the auditory system, and put these root sources into a context. We will start by giving you a quick overview of the Auditory system. There are three parts to the auditory system: the outer ear, the middle year, and the inner ear or the cochlea.

When sound enters the outer ear, it causes some to vibrate, which then causes small bones to vibrate. -- In the inner year especially in the middle year to move the beginning portion of the inner ear called

cochlea. In the inner ear, the sound is carried along the special nerves of the hearing centers – through the hearing centers of the brain.

That is when the individual experiences the sensation we call sound.

DR TERRY FOUST:

While this is how the auditory system typically functions, there can be some exceptions. There can be temporary issues like wax blockage or fluid in that middle ear that is caused by ear infections that we may discover and get addressed during the hearing screening process.

But the primary target condition, the primary target condition of a hearing screening is the functioning of that inner ear or the cochlea – the snail shape portion of the ear.

In some instances, the sound travels through the outer and middle ear. But when it reaches the cochlea, the signal is not transmitted to the brain. Resulting in what we call a sensorineural hearing loss.

In this condition is usually permanent. It is the primary condition through what we are screening for in this mass screening efforts. Now, this might come as a surprise to you, but it is a really important fact for you to know that sensorineural hearing loss is the most common birth defect in the United States.

In fact, about three in every thousand children are born with hearing loss, deaf or hard of hearing. Now, most newborns in the United States are screened for hearing loss using evidence-based methods, most before they ever leave the hospital.

But screening in the newborn. It is not enough because the research suggests that the incidence of permanent hearing loss actually doubles between birth and school age from that three in 1000 at birth, to about six in 1000 by the time children enter school.

So, we cannot only screen for hearing loss at birth. You need to screen throughout early childhood because that hearing loss can occur at any time, as a result of illness, physical trauma, environmental or genetic factors. And this is often referred to as late onset hearing loss, which simply means it is acquired after the newborn period.

DR WILLIAM EISERMAN:

Now, it is commonly understood that language development is at the heart of cognitive and social emotional development, and school readiness. This drives many of the practices we see in early childhood settings.

Think about how much emphasis is always placed on early language development – counting the words that children can produce, etc. Now, it is important to know that hearing health is at the heart of typical language development, and if we are going to be conscientious about promoting language development as a part of our commitment to school readiness, we should be equally conscientious about monitoring the status of hearing throughout this early period.

If hearing is compromised then typical language will ultimately be compromised as well. And we don't want to wait for a language delay to occur to discover that a child has a hearing loss.

DR TERRY FOUST:

Programs like head start which for years served as models of comprehensive health and education programs for young children and their families have required hearing screenings for all of their children. Even before we had these excellent methods for doing hearing screening.

But what actually is screening? Screening can be thought of as a kind of sorting process. It helps us separate the children who are at risk of having a condition of those who are far less likely to have a condition. Those in the first at risk group after they are sorted are followed with additional steps that are implemented by pediatric audiologists and other healthcare providers that continue to refine that sorting process before we have definitively identified that small group of children with a hearing loss.

Not to be blunt, we scream because we cannot provide a comprehensive audiology assessment for each and every child.

Screening followed by assess -- can provide better outcomes for children who are deaf or hard of hearing. When I hearing loss is identified early, we can then make sure a child has access to language. As a result, children who are deaf or hard of hearing are really thriving in ways that used to be rare. By providing a hearing screening you are part of creating these really amazing life outcomes.

DR WILLIAM EISERMAN:

Let us take a look at some examples of children with severe to profound hearing loss that have had the benefit of early detection and quality intervention. These children are learning, thriving, and communicating. Let us have a quick look -- these videos might stagger a bit. Focus on the auditory part, at least the first and last video, listen to the language production of these children who are deaf or hard of hearing.

These two girls are both wearing hearing aids.

(Video plays)

DR WILLIAM EISERMAN:

In this next example, we will see children for whom the parents, as stepchildren, they selected the use of sign language as their primary communication modality. We will see their communication with each other here.

(Video plays)

DR WILLIAM EISERMAN:

In this next example these two boys are deaf and they have cochlear implants, which is a medically implanted device that stimulates hearing. Let us listen to their communication.

(Video plays)

DR WILLIAM EISERMAN:

So those children remind us of our goal. We want to make sure all children have access to language, one way or the other, regardless of if they have a hearing loss. The way to achieve that is to be fully committed to quality periodic hearing screening.

So as we mentioned a moment ago, oh AEN and Pure Tone tree are the recommended methods we will be talking about today. The availability of OAE and Pure Tone screening mean it is not appropriate to solely rely on subjective methods like ringing a bell behind the child's head, or depending solely on it caregivers of perceptions of a child's hearing.

Do not get me wrong, observations of the child's perception to sound, including a lack of response, are important. And we should pay attention to how they do or do not (indiscernible) to their environment. But these do not constitute a hearing screening. They are far too crude and unreliable, and frankly, we can do so much more than that, because of our current, available technology. It is important to note, that although some healthcare providers have incorporated evidence-based hearing screening into child screenings, that is not yet standard practice. Especially for children less than four years of age.

DR TERRY FOUST:

That is right, William. Some parents may report with a lot of certainty to you that their healthcare provider supplied a hearing screening. Please understand, and I emphasize this enough as an audiologist, routine examinations of years by healthcare providers should not be mistaken as a hearing screening. It is precisely because screening is not happening yet consistently that in that context programs like yours are adopting hearing screening practices. Because there is obviously increased recognition of the importance of monitoring hearing, and it is not feasible to do that in programs like yours and by people like you.

DR WILLIAM EISERMAN:

The take-home message here is this: unless a child's hearing or medical records included documentation of your specific screening results, and the screening method used, we should not assume that a hearing screening was completed.

DR TERRY FOUST:

Another important point to remember is this: while OAE and Pure Tone screening are highly reliable screening methods, they are not perfect. That means that there may be similar conditions that are not identified through these screenings. Whenever a parent expresses a concern about a child's hearing or their language development, even if the child received and passed a hearing screening using one of these methods, that the child should be referred for an evaluation from an audiologist.

DR WILLIAM EISERMAN:

OK, let us talk about these two screening methods that can be used during early childhood. If you are responsible for children under three years of age, the recommended method is O8 screening, which

you see on the left. If you are responsible for screening children three years of age or older, historically Pure Tone screening has been considered the recommended method for this age group. As Terry said earlier, this has been changing, where more and more we are seeing children in this group, also, receiving OAE screening.

DR TERRY FOUST:

There is a lot of growing recognition that, for a variety of reasons, as common as Pure Tone has been, it is not always the most feasible method used for some of these younger children. Research indicates that about 20 to 25% of children in the 3 to 5 age group, cannot be screened with this methodology because they are not developmentally able to follow the directions reliably. That has been our experience as well. In those instances, oh a screening is the preferred method for screening of these children.

DR WILLIAM EISERMAN:

If you are considering using Pure Tone screening, you will also need to be equipped to do OAE's on that 20 to 25% who cannot be screened with pure tones, or alternatively, you will need to have a means for systematically referring all of those children to audiologists who can buy those screenings. Frankly, that is quite challenging if not impossible.

DR TERRY FOUST:

To supply things with this, more and more audiologists are recommending the use of OAE uniformly for all children 3 to 5 years of age and older. It is quicker than Pure Tone screening, both to learn to do and to implement stop is farmer likely to be a method that will work across the board with all children in that 3 to 5 age group that you would be screening, and it is equally effective.

DR WILLIAM EISERMAN:

If you are one of the providers looking to figure out what to do for your 3 to 5-year-old population, we have a document that compares all AEDs and pure tones, and helps you think through that decision process. You will find that under the planning component on the website that I reviewed earlier, I will show it to you again...

DR TERRY FOUST:

So we have addressed which methods are recommended for which age groups was the why cannot we -- why can't we just wrapped this conversation up here?

DR WILLIAM EISERMAN:

Implementing evidence-based hearing screening practices is more than simply using the right method. We have got to use that method in the right ways. That is why we are talking about going further and making sure that we know about the quality components of using these particular methods.

Terry, let us talk about the Otoacoustic method now, in more detail.

DR TERRY FOUST:

Thank you, William. Let us go ahead and talk about OAE screening or Otoacoustic emissions for the

as we said, it is the recommended hearing screening method for children birth to three.

You see this depicted in these photos here. Again, if you are serving children birth to three, OAE is the only-based evidence-based method recognized by the American Academy of audiology and the language speech hearing, known as ASHA.

DR WILLIAM EISERMAN:

So OAE is not the most method used for children, because it is accurate and feasible. It does not require a behavioral response from the child. They do not have to raise their hand or do anything telling us they have heard something. That means we can screen children under three years of age and across a developmental spectrum. It is quick, and easy. Most children can be screened in just a minute or two by a trained screener. Sometimes in as little as 30 seconds per ear. It is a flexible tool, like you see in this photo here. We can go to where children already are and screen them in a variety of environments, including classrooms, homes, and even healthcare settings.

The most important --

DR TERRY FOUST:

It is also the most effective to see about hearing loss or bilateral loss. It can be helpful in drawing awareness to a variety of health conditions that may need further medical condition. So OAE can also help us identify children who have a temporary hearing loss that may be the result of a middle ear infection. Although this is not the primary goal of OAE screening, it is still a benefit of screening with this method. So it meets the World Health Organization's core principles that we talked about a moment ago.

DR WILLIAM EISERMAN:

Take a look at these photos here. Children you see here are all being screened with the OAE method. What do you notice about where they are being screened? They are not being pulled out into an environment that is foreign or strange to them.

They are being screened in everyday, educational home, healthcare environments where they are already happily spending their time. Those doing the screening are often people they know: teachers, home visitors or health specialist.

DR TERRY FOUST:

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

So, to conduct a OAE screening, we are first going to take a thorough look at the outer part of the ear here, to make sure there is no visible sign of infection or blockage.

And then a small probe, and which we placed a disposable cover, is then inserted into the ear canal. And that probe delivers low-volume sound stimulus into the ear. So, a cochlea, or the inner snail

shape portion of the ear – a cochlea that is functioning normally will respond to the sound by sending a signal to the brain, while also producing a acoustic emission.

This emission is analyzed by the screening unit – in approximately 30 seconds, as Williams said, a result will appear. It will either be as a pass or as a referral.

Any normal in her ear or cochlea has the emission that can be recorded in this way.

DR WILLIAM EISERMAN:

Let me show you a really quick real-time screening with the child being screened with the help of two adults in their environment, which is ideal if you have two adults – one who is tasked to keep the child hand occupied and happy, while the other is actually performing the actual screening task with a handheld device.

We will watch this. This is an actual, real-time, unedited version of the screening of a particularly well behaved child, mind you. But, let us have a look. This may be a little staggering, but you'll get the idea.

(Captioned video plays)

DR WILLIAM EISERMAN:

There, you see the device in her hands.

(Captioned video plays)

DR WILLIAM EISERMAN:

That gives you a idea of how the screening process goes. Like many skillful tasks, screeners can make it look easy. It is also easy once you have been trained with a little practice.

Now, to keep all of the steps of screening process in mind – you will find in our website, kidshearing.org, a detailed checklist that guides the screener through a detailed step-by-step process. This is useful for the basis of training.

Any training you receive should help you acquire all of these skills.

DR TERRY FOUST:

Yes, a thorough training will help you get acquainted with the devices. It will also help it fit snugly into the child's ear. The learning experience will teach you with that function – by helping you first learn the screening on your own ears. Then other adults before you take on the challenge of trying to screen children. Simultaneously, learning to manage the behavior -- your behavior while screening.

You should be guarded the practices that demonstrate how the agreement will function if the individual you are screening moves, or makes noise while you are screening, or if there is external noise in your

room and what you can do about that.

Lastly, a good learning process will help you learn how to use the information provided on the device – the screening device – to record results, and with all the follow-up steps are when a child does not pass a screening on one or both ears.

DR WILLIAM EISERMAN:

I'm sure some of you want to know what the cost of OAE equipment – it is currently around \$3800. In addition to that, you will have those disposable probe covers, which range from about one dollar-dollar 50 each. That you will need to factor into your budget.

Those are some useful numbers that go on to the about from a budgetary standpoint. Now, there are other versions that are intended for audiologists. Those are more expensive.

So, you want to make sure that when you are purchasing equipment, you are going for the most basic models there are because as lay screeners, that is all you will need. You also want to make sure that as you budget, you will not only want to have budgeted for disposable probe covers for children, but also some for adults because, as you see in these photos, there are going to be times – both during the training process and after that – that you will be using the equipment on adult years, just to periodically test the equipment to make sure it is functioning as properly.

So, you will also want to have some adult size covers in your budget. So, that was an overview of the OAE screening method. Again, not for training purposes but to give you an overview.

Now, let us do the same with pure tone screening for those of you who may be considering this. Note, that appear tone screening is never recommended for children under three years of age, and as we mentioned earlier, tone screening has traditionally been the common method for our -- for 3-5-year-olds, but keep in mind there will be a certain percentage of children that you'll need to do either OAE, or have some method of referring them to an audiologist.

You probably recognize the pure tone method because you have either already used it, or you have had your own hearing screening as well. In this procedure, musical note like tones are presented to children through headphones.

And the children respond with a behavioral response like raising a hand, like you see in this photo here, to indicate that they heard the tone.

. Tone -- Pure tone screening gives us a good idea of the functioning of the entire auditory system all the way to the brain, with the child showing us that they have received the sound.

No, this is a affordable method with it costing from \$800to \$1000. The agreement is durable and portable, enabling us to easily transport and use it in a variety of locations.

Like OAE screening, a wide range of individuals can be trained with this procedure.

DR TERRY FOUST:

To conduct the pure tones greening, we need to check the outer ear to check if there is infection or blockage, just like we did with the OAE screening. If the ear appears normal, the screener will instructor condition the child how to listen for a tone, and respond by either raising hand, or placing a toy in a bucket.

This is good to show how they can reliably complete the screening task. Once the screener is sure the child is reliable – can reliably respond to sounds as the screener instructed – then the actual screening is started.

Now, during this weaning process, the same listen and respond game is repeated at least twice at three different pitches on each year. We note the child's response, or their lack of response, after each tone is presented.

If the child responds appropriately and consistently to the range of tones presented each year, then the child passes the screening.

DR WILLIAM EISERMAN:

Two especially notable ways pure Tone screening differs from OAE screening is the process requires children not only to be cooperative, but to be full participants in the process in following instructions and responding reliably.

This requires the instructions we referred to as conditioning or teaching the children, and determining whether you are getting a reliable response before even attempting to actually screen.

DR TERRY FOUST:

The other difference between pure tone and OAE screening is the screening itself is not automated as OAE is. Instead, in pure tone screening, you, as the screener, have to manually step through the presentation of the tone multiple times for each year, and record each response.

Then following a very specific protocol, you as the screener determines whether that your past or not. So, with pure tones screening there is more potential for screener error to produce inaccurate results. And so that is really why we have this big need for thorough training and oversight so we make sure all of the screeners are in -- are following the prescribed screening protocol.

We cannot say how important this is since some experienced screeners might make errors that invalidate the screening in ways they are unaware of. So, this is an example of the actual screening steps that need to be documented for each year as you screen.

Through the training process – through that training process, you should learn all of the steps of the conditioning, the screening process, and the environment conditions that need to be monitored and met as you go through the child screening. Based on the results, the screener determines whether each year passes or not.

Again, the device itself does not produce the result, as is the case with OAE screening.

DR WILLIAM EISERMAN:

As is true for the OAE method, kidshearing.org provides a set of implantation hearing resources for your tone screening. Also, we have a screening skills checklist that you can follow along and help guide you through this process.

It serves as a good basis for a training process as well. So, we have given you an overview of two methods, regardless of which method you use you will eventually have a child who does not pass the screening. What then?

In order to be evidence-based – now, remember it is more than just using the right piece of equipment. When a child doesn't pass, you need to follow a protocol that is grounded.

Our screening efforts are only as good as our ability to systematically follow when children don't pass the screening on one or both ears. So, another key resource you will find on kidshearing.org is the following protocol. I will give you a quick overview right here. We have documentation forms that correspond with this protocol.

So, you don't have to commit this memory. If you use documentation forms, you will be able to just stay on track following the protocol as it is prescribed.

So, 100% of your children will receive a initial screening on both years. At least for OAE screening, we expect about 75% of the children will pass on both years, and you will need to do a further follow-up.

However, about 25% will not pass on one or both years. And they will need a second screening in about two weeks. Now, about 8% of the total number of children screened will not pass that follow-up screening. And they will need be referred to a healthcare provider for a middle ear evaluation.

Once any middle ear problems have been resolved, and medical clearance has been given, you will then screen the small number of children 1/3 time.

We expect about 1% or even a little less will not pass that third screening. Those children will need to be referred to a pediatric audiologist for a complete audiological evaluation. Excuse me.

Now, although a small subset of children will indeed need a follow-up referral process that you see in its entirety here, we found through our work with literally hundreds of early childhood, Early Head Start and Headstart programs that this is a doable protocol that helps children get the medical and audiological attention that they need while also minimizing unnecessary referrals to healthcare providers.

Once you are underway with your screening program, you will want to check these percentages to see if you are getting a similar pass and referral percentages.

DR TERRY FOUST:

I would like to interject to make an important point. If you find your pass and fail marks are different than you would anticipate, then you may want to seek technical assistance.

DR WILLIAM EISERMAN:

This is another illustration of that screening protocol process. There is one important exception to this protocol that is important to point out, and Terry referred to this earlier. Whenever a parent or caregiver expresses concern about a child's hearing or language development, the child should be referred for an evaluation to a pediatric audiologist even if the child passed the hearing screening. This is true because, if you recall, hearing screening methods are not 100% accurate or perfect. So to be on the safe side, whenever there is an explicit concern about hearing or language, make a direct referral. Of course, you can screen the child and send the screening results along, but make the referral regardless.

We are going to take a big deep breath, and we are gonna open up for questions in a moment here for we will return to our website kids.hearing.org where you can find various resources to support your hearing screening activities. The Q&A is open right now, so if you want to raise any questions or express any concerns or ideas, feel free to start typing there.

I'm going to take a minute and take you to our website. We want to invite you all to explore all of these implementation tools before you sit down and try to create something of your own. You may find what you are looking for is already there. Like letters to parents about your screening efforts, documentation screening forms, referral letters... we tried to put in everything there that makes a screening program work. Those things were created in great collaboration with programs like yours.

This is our landing page, and if you scroll down... you will find first planning resources. That is where you will find the information about deciding between Pure Tone and OAE if you are serving that older group of children and you need to think about which method to use, you will find other information about how to purchase equipment, considerations for that... ways to find a local pediatric audiologist to either help you in your development of your program or for referral purposes when children do not pass.

The next group of resources will help point you to training. On demand training for either OAE screening or for Pure Tone audiometry. That is where you will go to find that.

Once you're up and going, you will find resources for your daily use. Those forms, referral letters, all of that will be found in this group under 'Screening resources'.

In the last group you will find follow-up resources, like a tracking tool. You will be tracking a group of children through a screening process. There is a free tracking tool you can download. It is really a spreadsheet that has the built-in protocol incorporated into it. So check that out. A lot of people use that to keep track of where children are at any given point in their follow-up process.

There are also some resources there for monitoring the quality of your program, like monitoring that pass and referral rates.

Now if you are a Head Start, we're not your only resource. You also have more that will provide support, specifically if you have questions about Headstart program, and specific guidelines related to being a head start grantee. Remember that they are there too.

So, remember these kids? This is what it was all about. You can make a real difference in the lives of children who have, now, an unidentified hearing loss, and bringing that into light. It can dramatically change, not only their lives in the short term, but a lasting effect. Because of their access to language early on in their lives. That is part of the central role that you are most likely playing in the lives of children. To make sure, that if they have needs, we find out about them, and we address them as soon as we find out about them.

When children with hearing loss are identified and connected with intervention resources that they need, they can thrive. We are seeing them thrive now in ways that used to be rare. You can have the satisfaction of knowing you are a part of that outcome.

Let us see what kind of questions we have got here. If any. Note: that this webinar has been recorded. It is available on infanthearing.org in the next couple of days. This webinar will be repeated again on February 7. Did I get that right? Gunner, if you could check that date, that would be good. It is either the seventh or eighth. I want to check.

Let us see if we have some questions that we can address.

There is a question, Terry, about newborn screening results. And whether program should be collecting newborn screening results, and how long to rely on the newborn screening results. Terry, can you comment on that?

DR TERRY FOUST:

Yes, thank you.

Newborn at hearing screening results are important, we should try to get a hold of those. We can rely on those results for, just approximately, about a year. But we are going to want to rescreen after that.

DR WILLIAM EISERMAN:

Great! Thank you.

The next question is, how can programs fund the hearing screening program, and also get full training? Do we need family insurance information to build their insurance? Or do we need certain certificates or registrations to do this?

In most states, you can provide training-or screening, as laypeople, provided you have Ed's training. Again, like I said before, you can find training resources on our website. You want to be sure to check

out whether there are any state or local regulations about that.

As far as insurance, it all depends on whether you are in a program that is an insurance provider. If you are, you may be able to get reimbursement for screenings in most programs that is not the case. But if you are an insurance provider of other types, that may be an avenue to consider.

C. Another question here is: my baby missed the newborn screening because he has auditory neuropathy. After a painful journey, we finally learned he was death at 18 months. He had no risk factor, so we were not aware of the need to follow up to screen. We lost valuable time that we would have had if newborn screening had been the AVR. Are we sure the OAE is the screening to promote? If so, why?

Terry, do you want to talk about that?

DR TERRY FOUST:

Yes, I really appreciate this question. My heart goes out to you and your family.

I just wanted-I really appreciate the opportunity to address this one. I want to have a different but -- difference between the programs we are talking about today, which would be outpatient, early childhood screenings, outside a hospital programs, and then we also have the newborn hearing screening programs.

Automated AVR is becoming increasingly used in the hospital-based programs. Let me just clarify for those on the webinar who may not know what auditory neuropathy is, it is a rare condition that affects the hearing system beyond the cochlea or snail shaped portion of the year that we talked about here today. If we remember how we talked about the incidents, if we have about three per thousand that refer on newborn screening, and then we go to about six per thousand, it grows to six per thousand, by the time their school aged. Take that six per thousand, and then the published data shows that audit showed neuropathy, there is quite a range of kids with hearing loss that is due to (unknown term) and some have it as high as 15%, and that is 15% of the six per thousand statistic that we are talking about.

We just do not have a perfect screening tool for that. When we go to the kids who are in the settings we are talking about today, auditory brainstem response testing that we find are often used in newborn screening programs, it is not feasible with our population due to concerns with-we have to have them in a sound sleep, and we would get into sedation and those types of issues.

DR WILLIAM EISERMAN:

I am going to try and move on because we have got so many questions... but it is a real dilemma. There really is not a great way for us to be screening for that particular condition in a nonmedical setting.

Here is a question, what resources do you recommend to finding community support to assist in screening our youth or children?

That is a great question, and we do not have the answer to that because there really are not a lot of great uniform resources across the country. There may be certain public health programs that may be engaged in this, but it is pricey because of the absence of attention to the birth to three need for periodic screening, that we are encouraging folks like you to get involved in that. And to, perhaps, adopted the provision of the services.

Terry, here is a question. Can you screen children who have PE tubes with an OA screener.

DR TERRY FOUST:

Yes, absolutely. Pete tubes if they are open and functioning appropriate, and if the child-Mac auditory system if the cochlear is functioning normally, we should get it passed. And if you get a refer, it can help us identify a problem with the PE tubes. So absolutely we can screen children with PE tubes.

DR WILLIAM EISERMAN:

The next question, I am going through this quickly, but we are not going to be able to meet our closing time, I think, and covering all of these questions. If we have not act -- if we have not adequately answered your question, we invite you to go to our website to see if your answers are there. If they are not, email us through kids hearing.org, and we will do our best to correspond with you via email to get your question answered.

How can OAE screenings be done in a day care or classroom? Doesn't the environment need to be quiet?

Terry?

DR TERRY FOUST:

It does, but the beauty of OAE screening is that that test is more contingent on having a good profit -- (unknown term) and it can also stand a moderate amount of background noise. So you can screen with some background screen with a good fit.

DR WILLIAM EISERMAN:

So, Terry, here is a question related to the older children. What are your thoughts about select picture audiometry like the pilot?

DR TERRY FOUST:

There has been a lot of attempts to try and automate, and make Pure Tone Audiometry easier. But right now, the protocols from the American Academy of audiology and the American speech language Association, really recommend the protocol that we discussed in our presentation today. That does not always meet those protocols.

DR WILLIAM EISERMAN:

Well, we have reached the top of the hour unfortunately. We have many questions here, and again, we invite you to email us if you do not find your answer to the questions on our website and the various

resources that are there.

Many of your questions, as I scroll through them, I am noticing they are really much more (indiscernible)-- they really a training nature. I encourage you to explore the training resources, either that we have or others may provide, to see if your questions can be addressed there. Again, we are open to responding to you via email if that would be helpful.

Two hour captioners, thank you for your time and talents today in providing our captioning services. Thank you to Terry and the background folks who are playing technological support for us. And all of you! Who have been a part of our audience today.

Gunnar, did you say the next date? The eighth. Thank you. As this webinar closes out, you will notice a change on your browser screen. It will open up an evaluation, and that evaluation ends up in producing a certificate of attendance for today's webinar.

We would love your feedback, and if you need a certificate, this is a great way to obtain that.

Again, thank you, everyone. And thank you, Terry.

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