



Before starting - go to SLIDE SHOW, select set-up show and check that advance slides manually is selected



## ECHO Initiative's Mission

Provide information to all Head Start programs serving children 0-3 years of age

Establish Model OAE screening practices in EHS Programs in every state

Provide ongoing TA

Expand to other venues



The ECHO Initiative's Missions is multifaceted. Primarily, our aim is to provide information to all Head Start programs serving children birth to three years of age (early head start, migrant HS and American Indian/Alaska native grantees) Expanding from that, we establish model OAE screening practices in selected programs in every state. And we providing ongoing technical assistance to those model programs as well as to anyone else needing it.



The short answer to that question is that professionals who are serving children 0 – 3 years of age can learn to conduct Otoacoustic Emissions (OAE) screening in a variety of environments.

*“These children are being screened using the OAE method.*

*They are being screened in educational, home and health care environments.*

*Those doing the screening are teachers, home visitors, health specialists or medical assistants.*



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

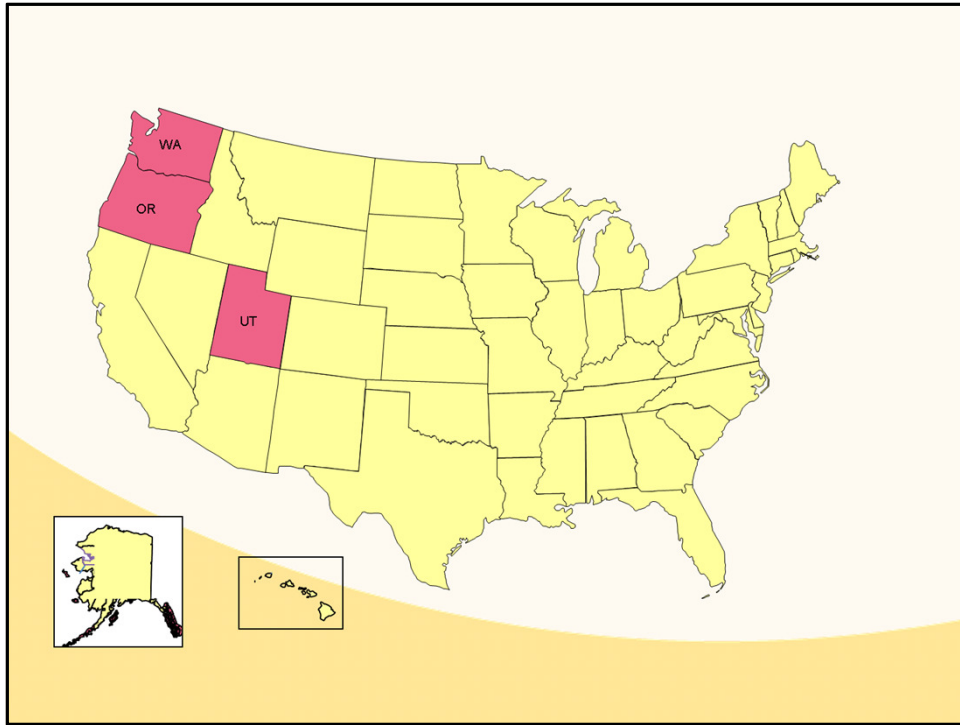


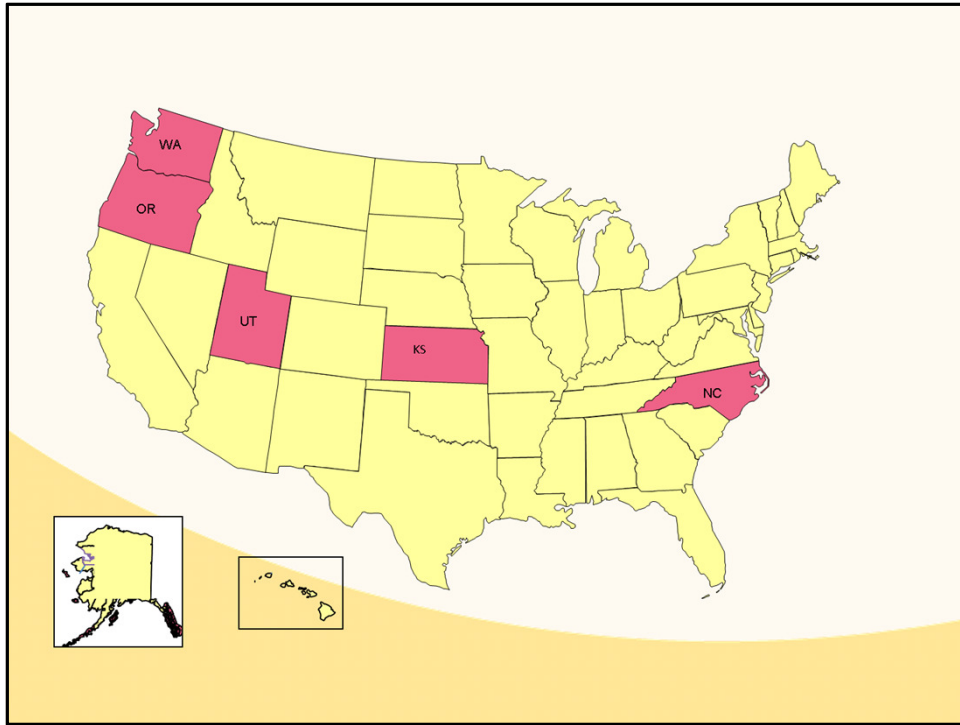
## ECHO Initiative Accomplishments

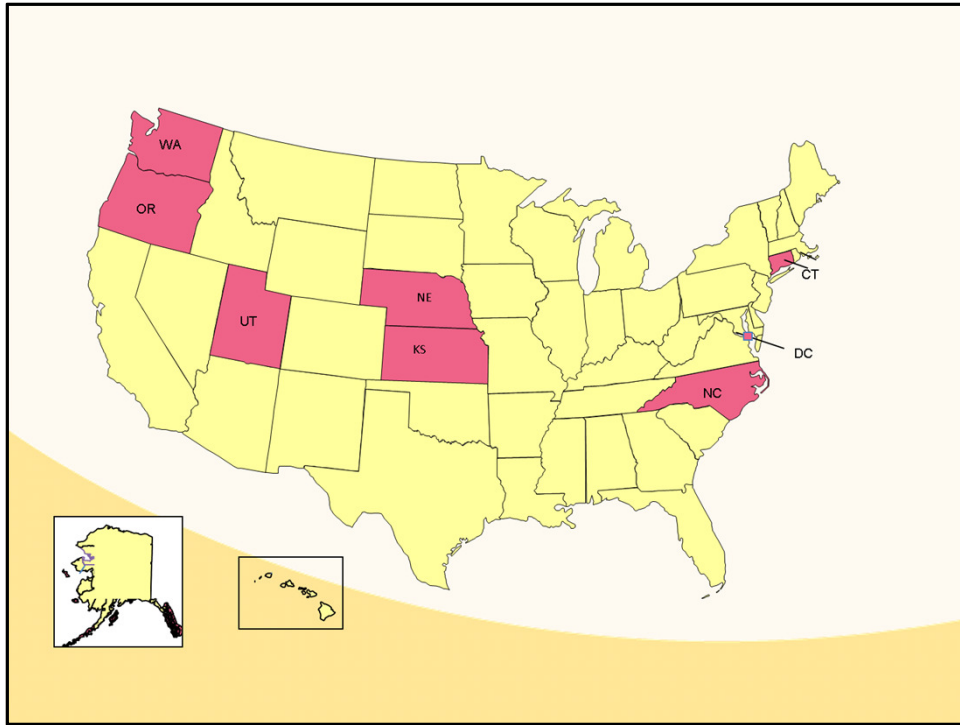
Model practices in nearly every state



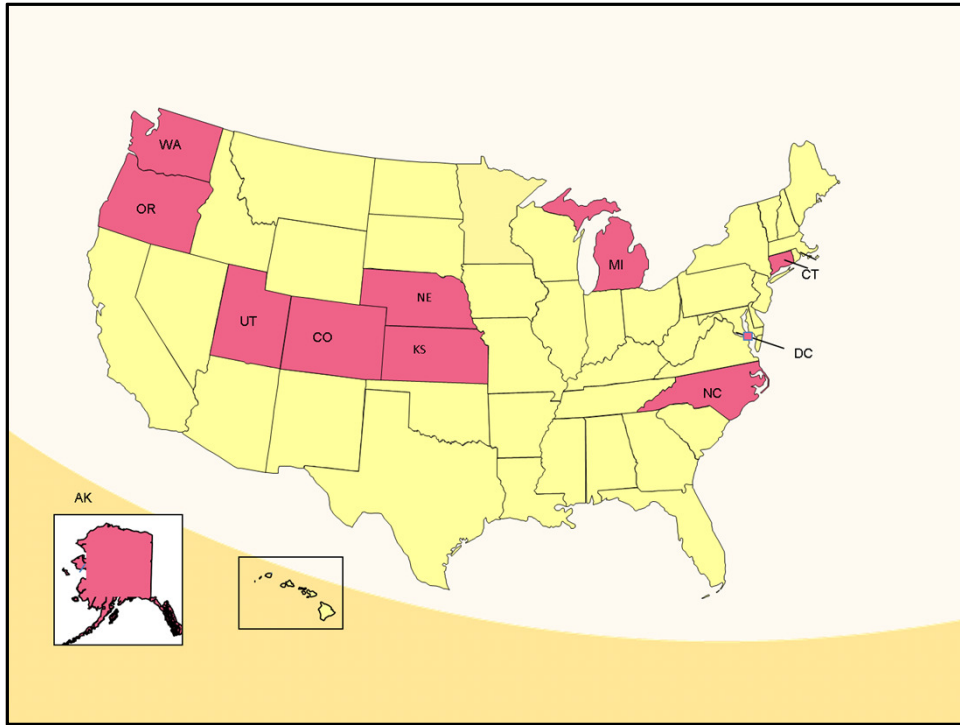
Summarize slide

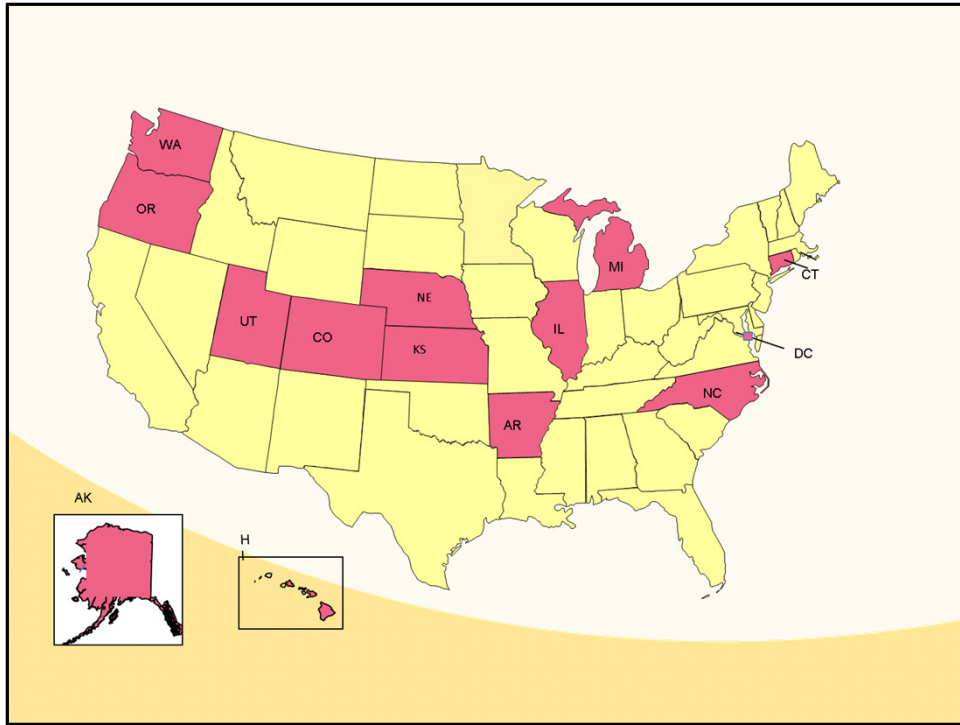


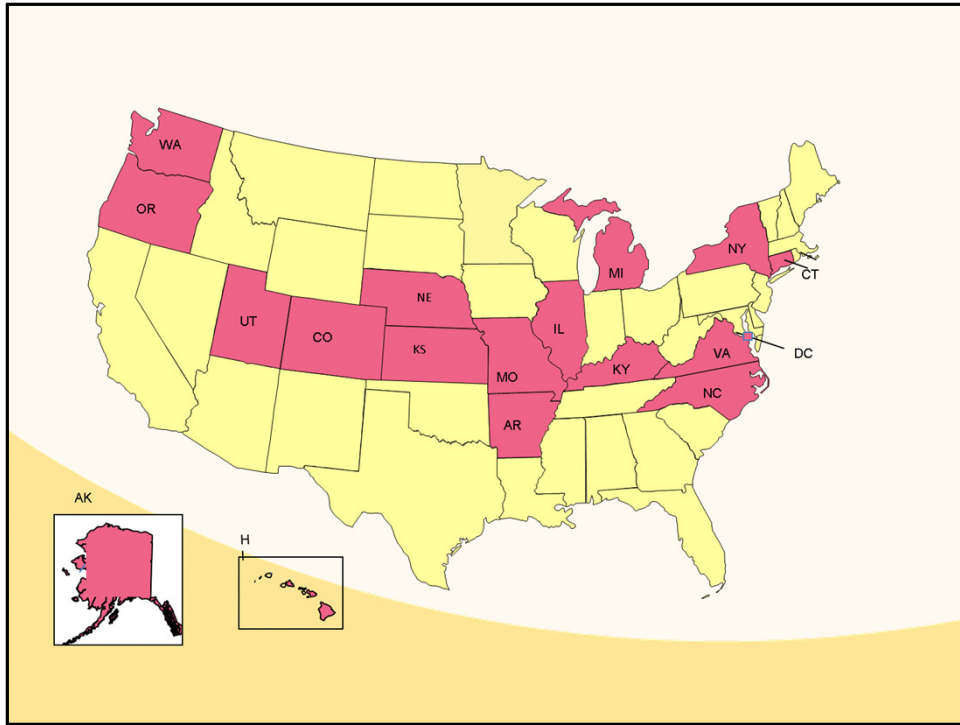


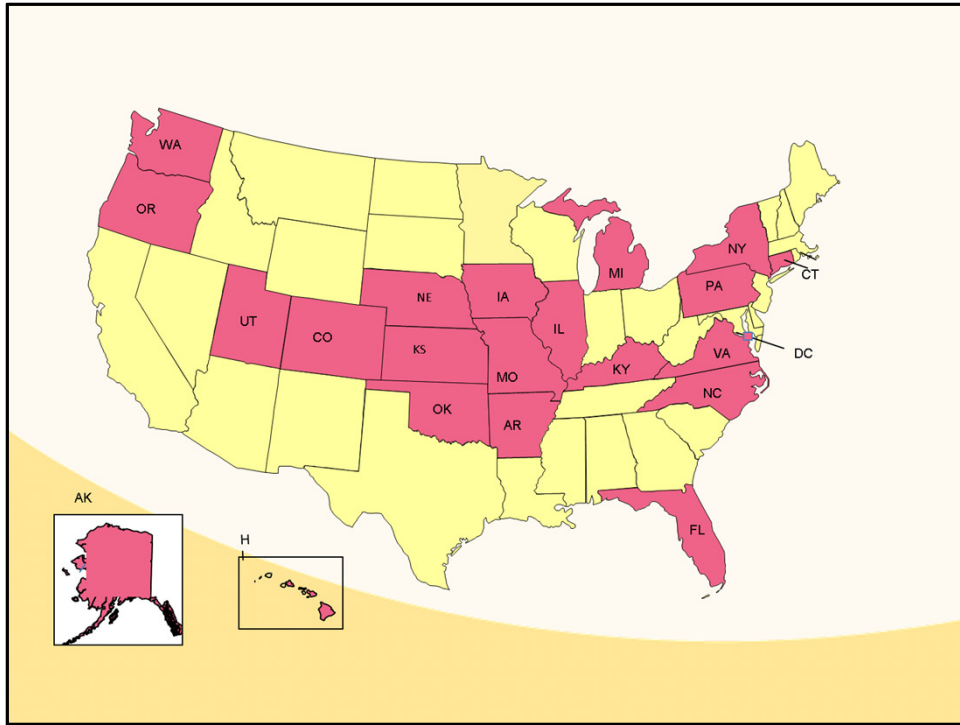


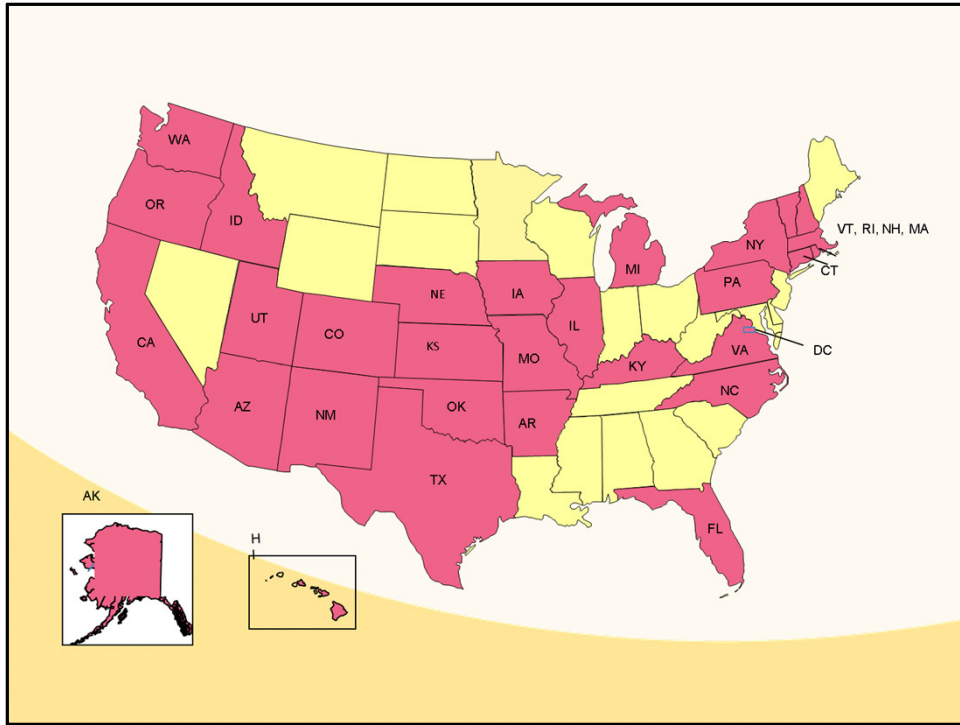


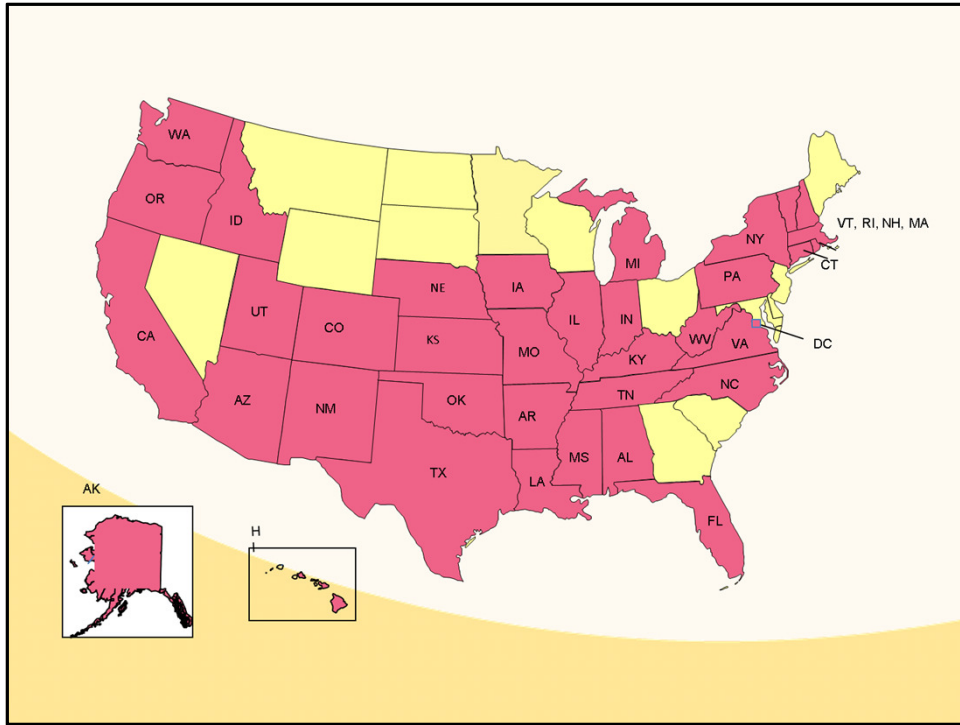


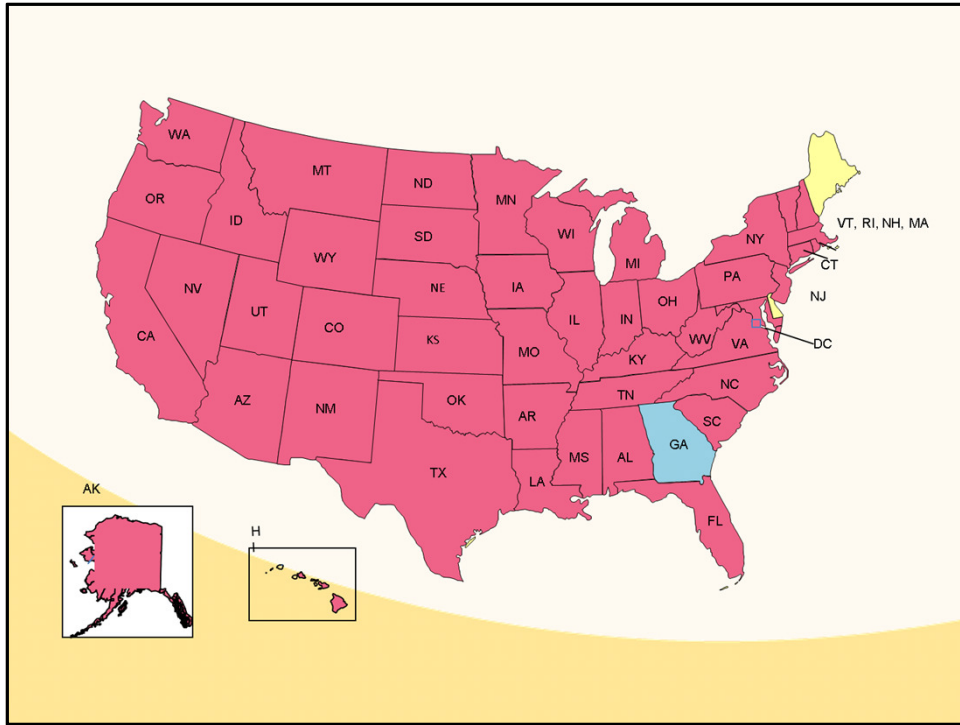














## ECHO Initiative Features



Partnerships with audiologists

Web-based resources

Appropriate equipment

Development of screening skills

Screening & follow-up protocol

Tracking & Data Sharing

Provision of training & TA



Summarize slide





## ECHO's next *echo*... ))))



Diversified training approaches  
(web-based, partners, etc)


Establish 2 new EHS model  
programs each state

Providing ongoing TA

Establish data sharing practices  
with state EHDI systems

Expanding awareness and  
improved practice

Summarize slide



## Aims of this Meeting

- Get acquainted with ECHO resources
- Build capacity to help plan OAE screening programs
- Enhance training and TA abilities
- Prepare for questions and concerns
- Identify next steps & opportunities

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## What is Head Start?

- Created in 1965 as part of the War on Poverty
- Eligibility is primarily based on poverty level
- Grantees can be non-profits, LEAs, for-profits, government, including tribal
- Administered by Office of Head Start/ACF/DHHS
- Funding directly from federal government to local programs; by-passes state government
- Each state has a Head Start State Collaboration Office



Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## What is Head Start?

- “Learning Laboratory” in early childhood
- Comprehensive: health, nutrition, child development/education, mental health/social-emotional, disabilities, family services, parent involvement
- Types of Head Start programs
  - Head Start (1965): 3 – 5 year olds (pop. 1,130,211)
  - American Indian-Alaska Native (1965): 0–5 year olds
  - Migrant & Seasonal Head Start (1969): 0–5 year olds
  - Early Head Start (1994): pregnant women, 0–3 year olds (pop. 151,352)

Let’s talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.


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




## Head Start Performance Standards

§ 1304.20 Child health and developmental services

- (b) Screening for developmental, **sensory**, and behavioral concerns.
  - Screenings within **45 calendar days** of enrollment
  - Perform or obtain linguistically and age appropriate screening procedures
  - Developmental, **sensory** (visual and **auditory**), behavioral, motor, language, social, cognitive, perceptual, and emotional skills



You're probably wondering about what is recommended for 3-5 yr olds. Let me briefly comment on this. The recommended method for 3-5 yr old children is pure-tone audiometry. This does require a behavioral response and a conditioning process where children essentially learn the task behaviorally responding to sounds presented during the screening. Any child not passing must then be followed up using a similar protocol to what is used for OAE screening. While we have not targeted the 3-5 year old screenings, we regularly receive inquiries from regular head start programs which indicate that there is a significant need for training and technical assistance around appropriate audiometry screening, a lack of understanding about the follow-up protocol. So, this may be an area you will need help them access support. We also know that 20—25% of children 3-5 yrs of age will likely not be able to be screened using pure tone audiometry because they simply can't reliably be screened given the conditioning/learning task involved. All of these children should be screened using OAEs. It is our impression that it is likely that 20-25% of children in regular head start are not getting an adequate hearing screening given that PTA is the only method most of these providers attempt to use. While we have provided this guidance every time we have been asked this question, which is during nearly every workshop and webinar we do, we have not yet targeted the regularly head start grantees with this information. To be clear, OAE screening is the recommended method for any older child who is unable to be screened using pure tone audiometry... its important to also not that increasingly there are some in the larger audiological community who are opting for OAE screening with this population in general. We do encourage you to direct anyone serving 3-5 year olds to our website as well and, as with all questions regarding hearing screening, to seek a local audiologist's input.

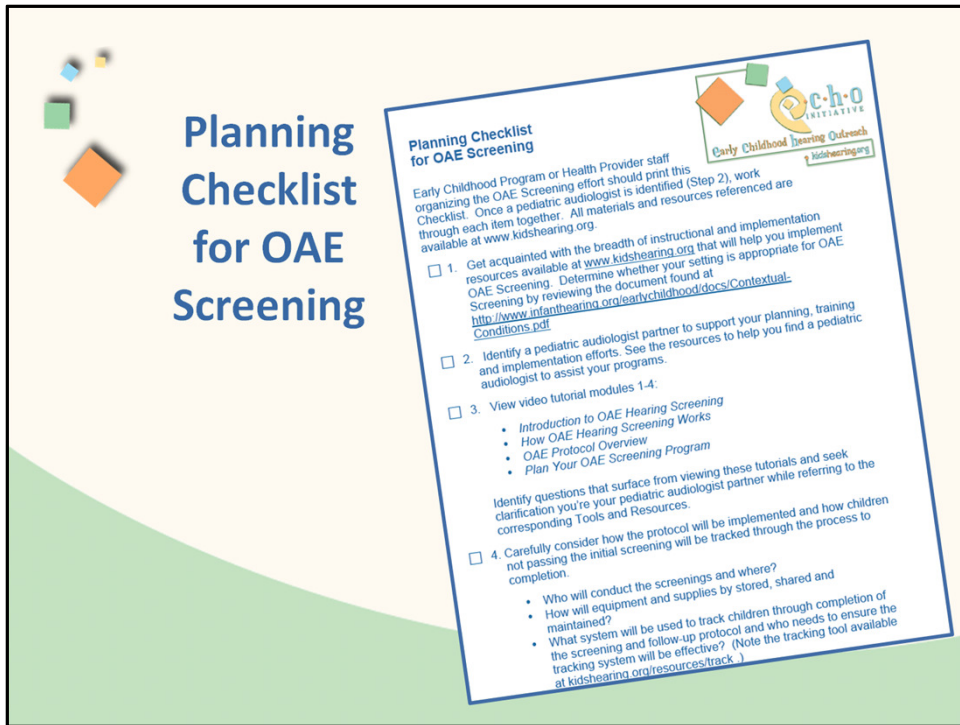


## Head Start Performance Standards

### §1308.6 Assessment of children.


- (1) All children enrolled in Head Start are screened as the first step in the assessment process
  - Standardized health screening and developmental screening which **includes** speech, **hearing** and vision
  - Brief process
  - Never used to determine that a child has a disability
  - **Indicates that a child may need further evaluation** to determine whether the child has a disability
  - **Rescreening must be provided** as needed
  - The disabilities coordinator must arrange for further, **formal evaluation** of a child who has been identified as possibly having a disability, **the third step**.

You're probably wondering about what is recommended for 3-5 yr olds. Let me briefly comment on this. The recommended method for 3-5 yr old children is pure-tone audiometry. This does require a behavioral response and a conditioning process where children essentially learn the task behaviorally responding to sounds presented during the screening. Any child not passing must then be followed up using a similar protocol to what is used for OAE screening. While we have not targeted the 3-5 year old screenings, we regularly receive inquiries from regular head start programs which indicate that there is a significant need for training and technical assistance around appropriate audiometry screening, a lack of understanding about the follow-up protocol. So, this may be an area you will need help them access support. We also know that 20—25% of children 3-5 yrs of age will likely not be able to be screened using pure tone audiometry because they simply can't reliably be screened given the conditioning/learning task involved. All of these children should be screened using OAEs. It is our impression that it is likely that 20-25% of children in regular head start are not getting an adequate hearing screening given that PTA is the only method most of these providers attempt to use. While we have provided this guidance every time we have been asked this question, which is during nearly every workshop and webinar we do, we have not yet targeted the regularly head start grantees with this information. To be clear, OAE screening is the recommended method for any older child who is unable to be screened using pure tone audiometry... its important to also not that increasingly there are some in the larger audiological community who are opting for OAE screening with this population in general. We do encourage you to direct anyone serving 3-5 year olds to our website as well and, as with all questions regarding hearing screening, to seek a local audiologist's input.



Let's talk for a moment about how this procedure works, so you understand why it is possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## When is a setting appropriate for OAE Screening?

- Access to children and families
- Access to medical & audiological services
- Tracking System
- Staffing
- Budget
- Focus on language development/hearing
- Collaborative capacity

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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





## Purpose of ECHO Screening



“The purpose of screening is to detect, among apparently healthy persons, those individuals who demonstrate a greater probability for having a disease or condition, so they may be referred for further evaluation”

ASHA Guidelines for Audiologic Screening

“Audiologic Screening - pass/fail procedure to identify individuals who require further audiologic assessment/evaluation and/or treatment or referral for other professional services.”

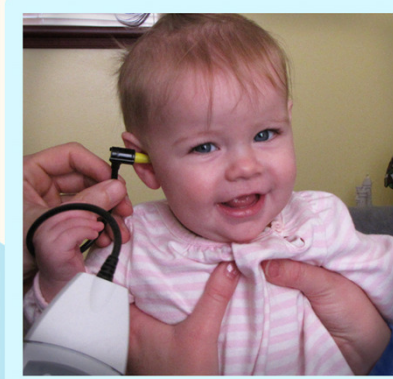
Preferred Practice Patterns for the Profession of Audiology.  
Approved by the ASHA Legislative Council, December 21, 2006

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## Purpose of ECHO Screening



Middle ear disorder? no

- Why?

Auditory Neuropathy? no


- Why?

Permanent sensorineural  
hearing loss? YES

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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





## Web-based Resources

- Whenever possible train from website  
(total viewing time 45 min)
- Help program staff access website resources
- Use resources for:
  - ✓ Planning
  - ✓ Learning & Skill Building
  - ✓ Technical Assistant training
- Expansion & replication

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## Web-based Resources

- Planning, learning & implementation
- Education, health, other venues
- Audiologists, screeners & administrators
- Use in facilitated trainings, small- & large group, or individualized self-instruction
- Used chronologically or as-needed
- Ongoing library of critical resources

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



## EQUIPMENT

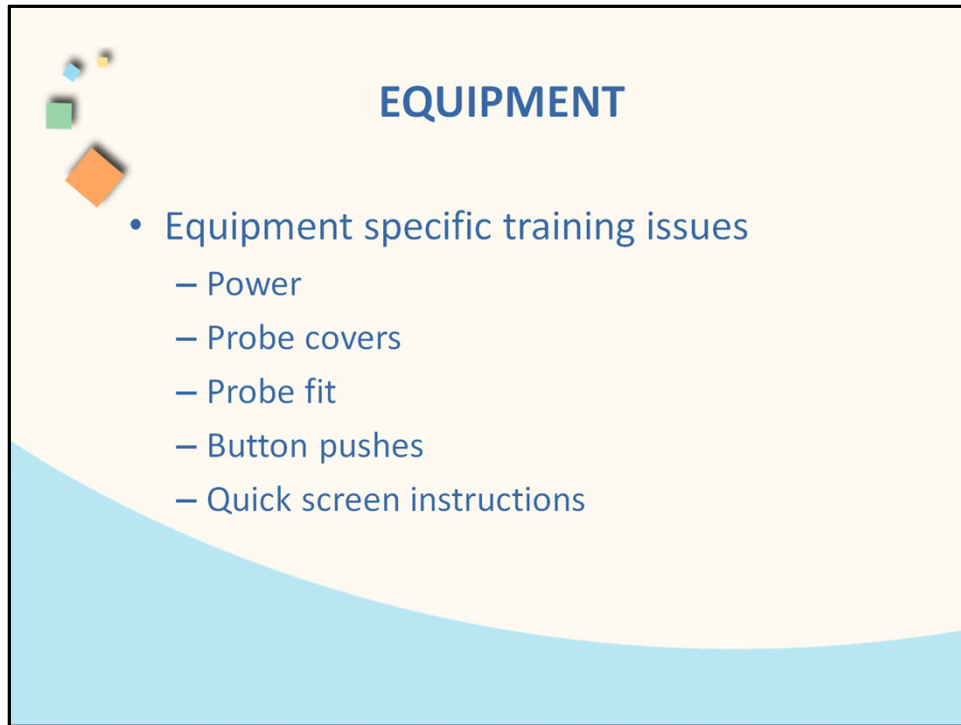
- Equipment selection
  - Training modules and materials
  - Options and pricing
  - On line resources

### Otoacoustic Emissions (OAE) Equipment Comparisons for Lay Screeners Serving Children 0 - 3 Years of Age

<i>All equipment listed below meets the following criteria for hand held OAE screening units to be used by lay screeners:</i>	Yes
Equipment can be purchased as a basic screener with an appropriate protocol for screening children ages 0-3	✓
Equipment provides a "Pass" or "Refer" result that requires no interpretation (using pass criteria of 3 out of 4 frequencies)	✓
Equipment uses Distortion Product (DP) screening modality most common for screening children ages 0-3; (Some equipment can be purchased as a "TEOAE" or a "DPOAE" unit—be sure to ask for "DPOAE" only)	✓
Equipment is handheld, portable and adaptable to varied screening situations	✓
Probe cord is of sufficient length (approx. 48"), and has a clip to attach it to clothing, for screening children who are mobile and sitting upright*	✓

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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

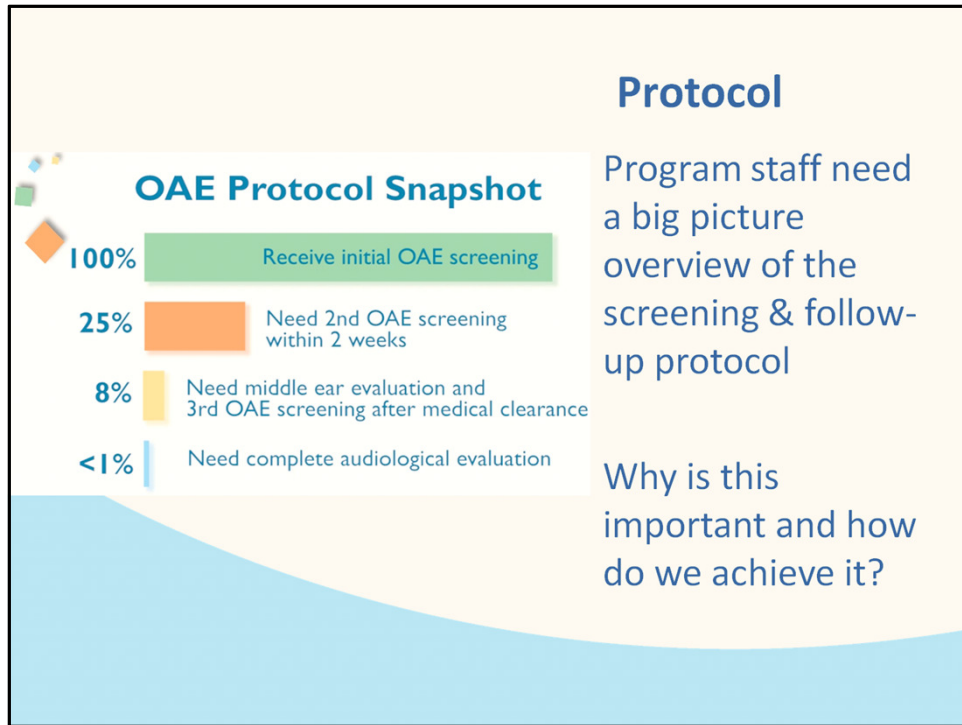
A presentation slide with a light yellow background and a blue wavy shape at the bottom. In the top left corner, there are several small, colorful geometric shapes (a blue diamond, a yellow square, a green square, and an orange diamond). The word "EQUIPMENT" is written in bold blue capital letters in the upper right. Below it, a bulleted list of training issues is shown in blue text.

**EQUIPMENT**

- Equipment specific training issues
  - Power
  - Probe covers
  - Probe fit
  - Button pushes
  - Quick screen instructions

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.


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



Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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



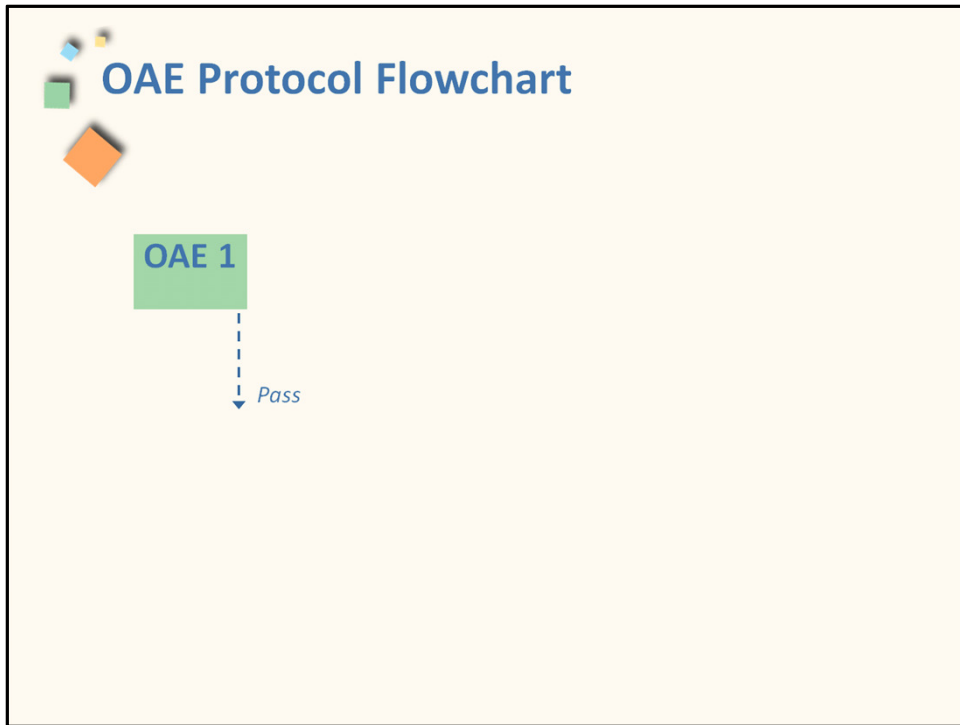


## Protocol related considerations

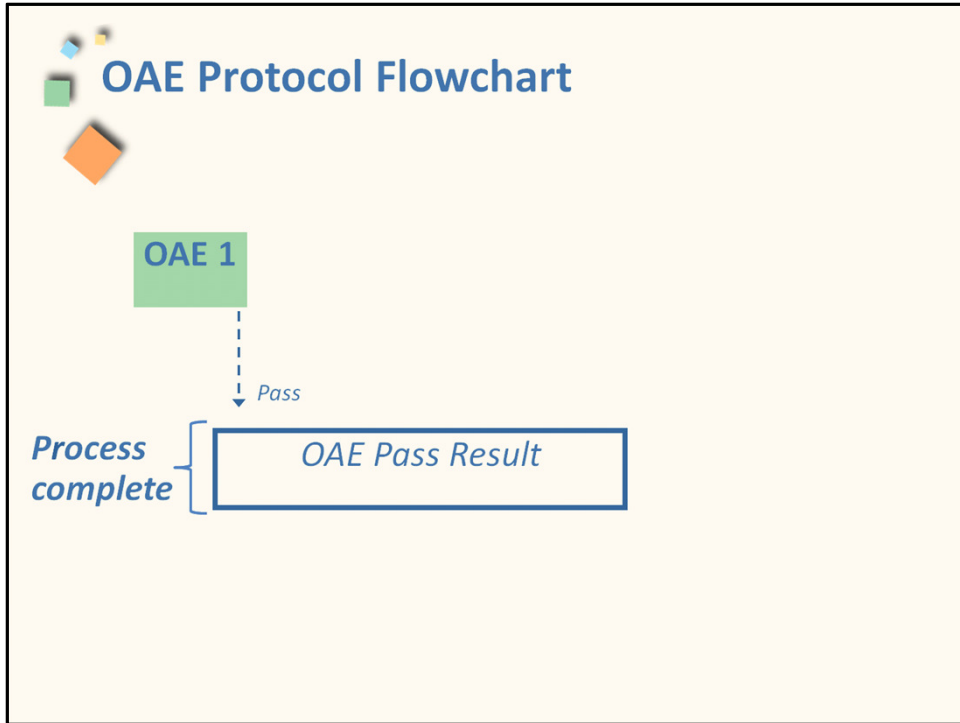
- How many children need follow-up?
- How many screeners engaged?
- In what settings?
- How many pieces of equipment?
- How will outcomes be documented?

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

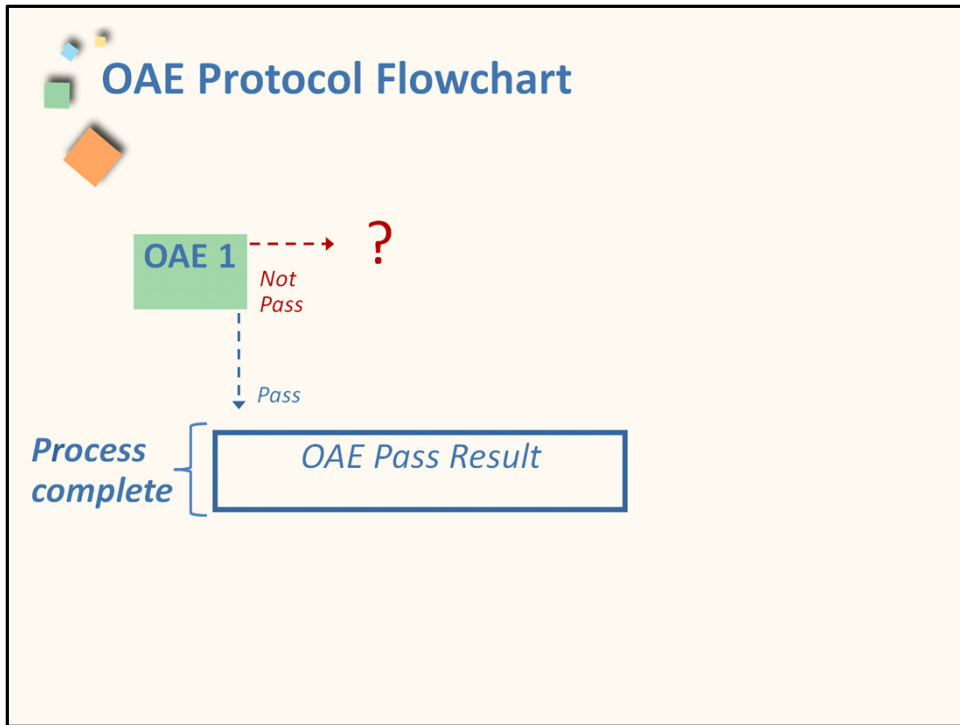
To conduct an OAE screening, we first take a thorough look at the outer part of the ear to make sure there is no visible sign of infection or blockage.



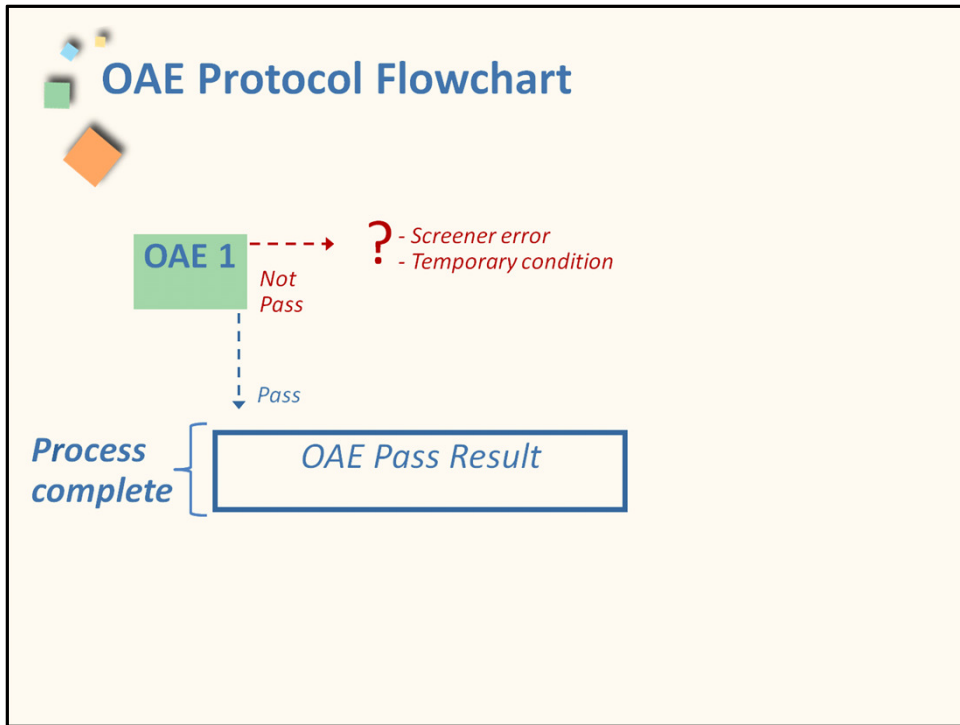
The OAE Screening and follow-up protocol and accompanying forms walk you through this process for each child. You will want to document ear-specific outcomes at each step in the protocol.  
If an ear passes the first OAE screening,



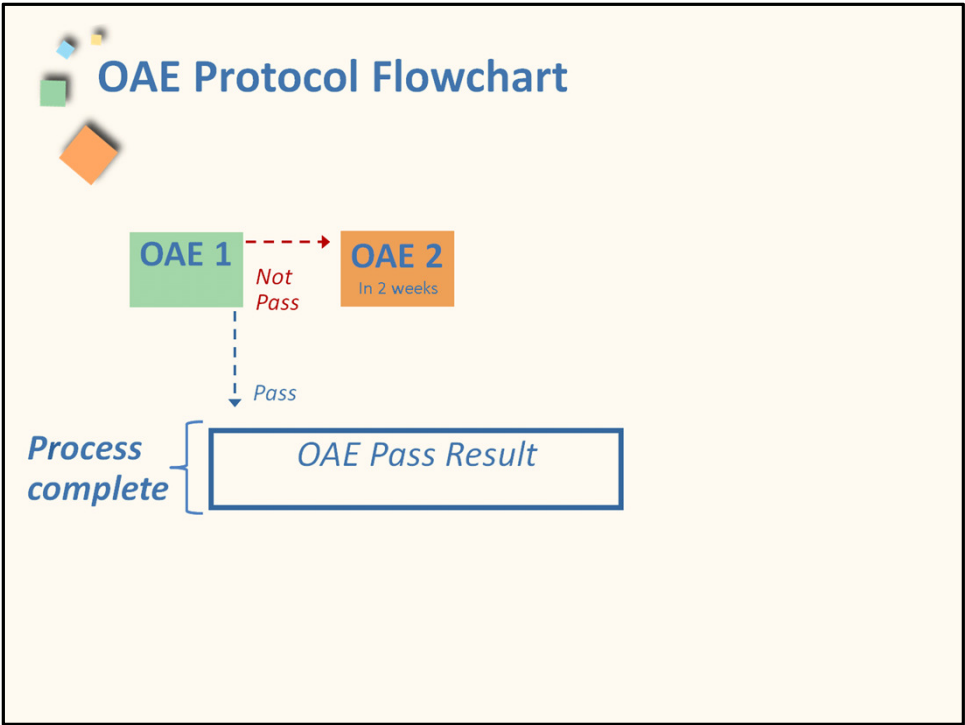
the process is complete for that ear.



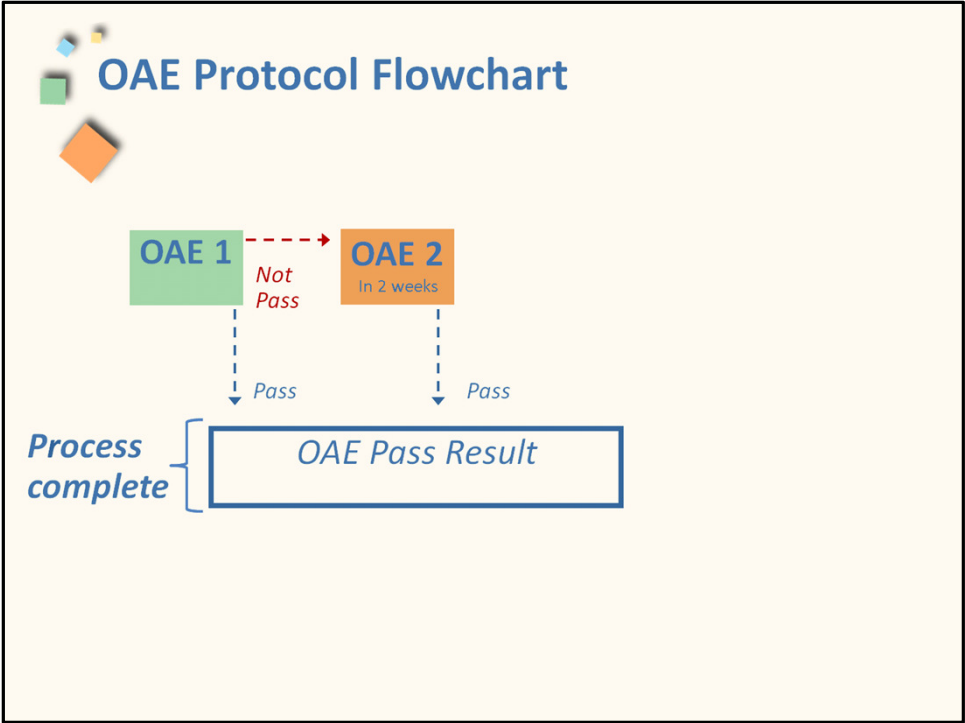
If the ear does not pass after several attempts during the initial screening session, we can't be sure why. About 25% of children will not pass the first OAE screening in one or both ears, ...



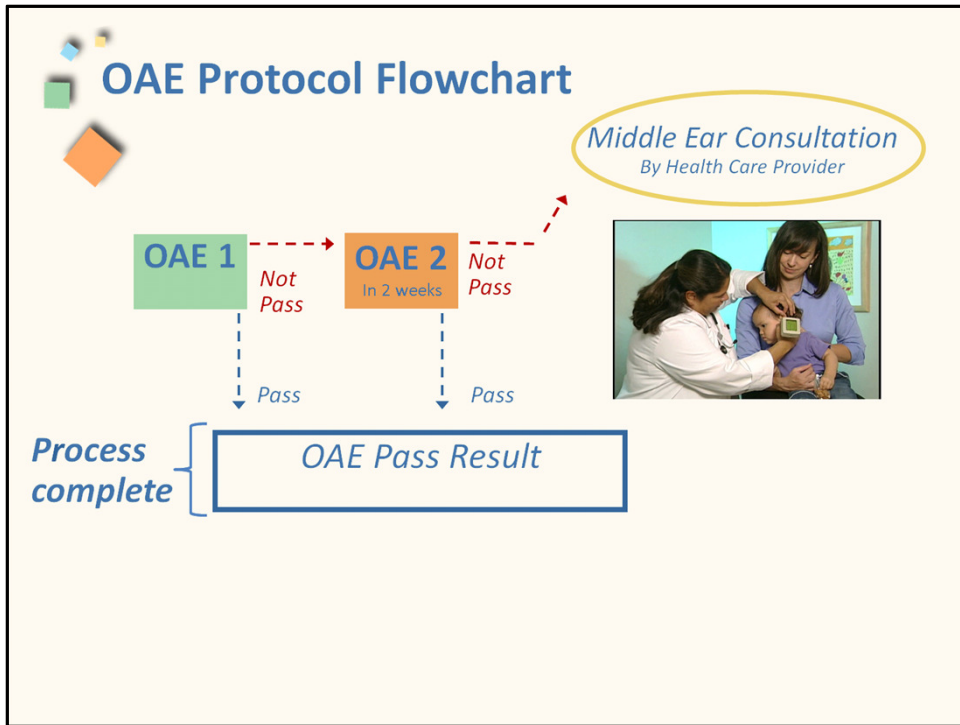
...sometimes due to screener error or a temporary condition like a head cold, so it wouldn't be practical for every child who doesn't pass to be referred to a health care provider or audiologist...



Instead, wait two weeks and screen again. If the ear passes...

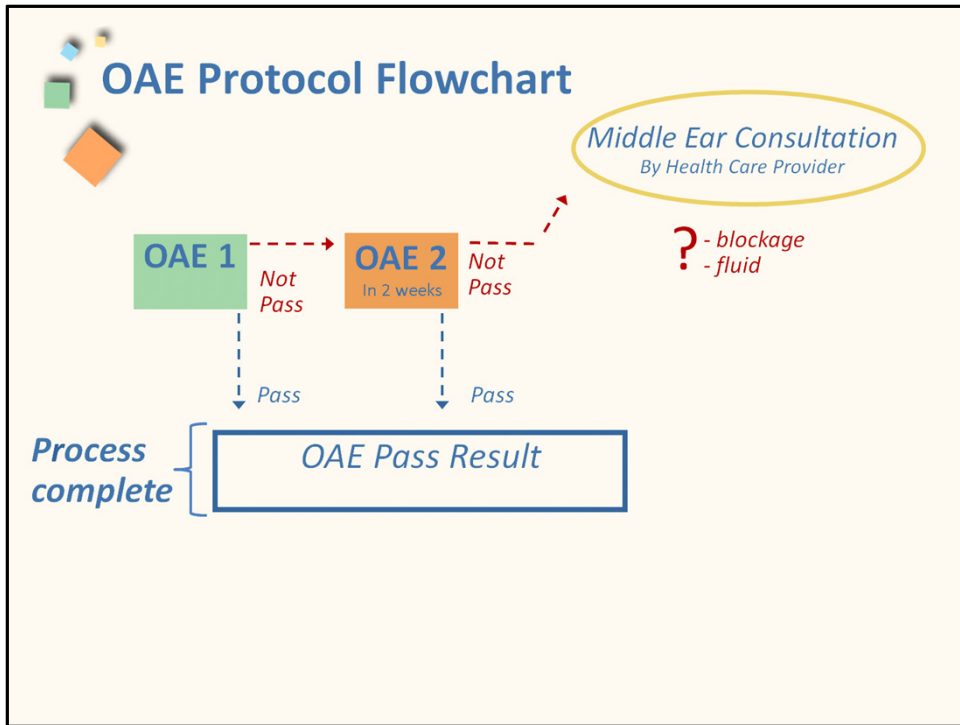


...the screening is complete for that ear.

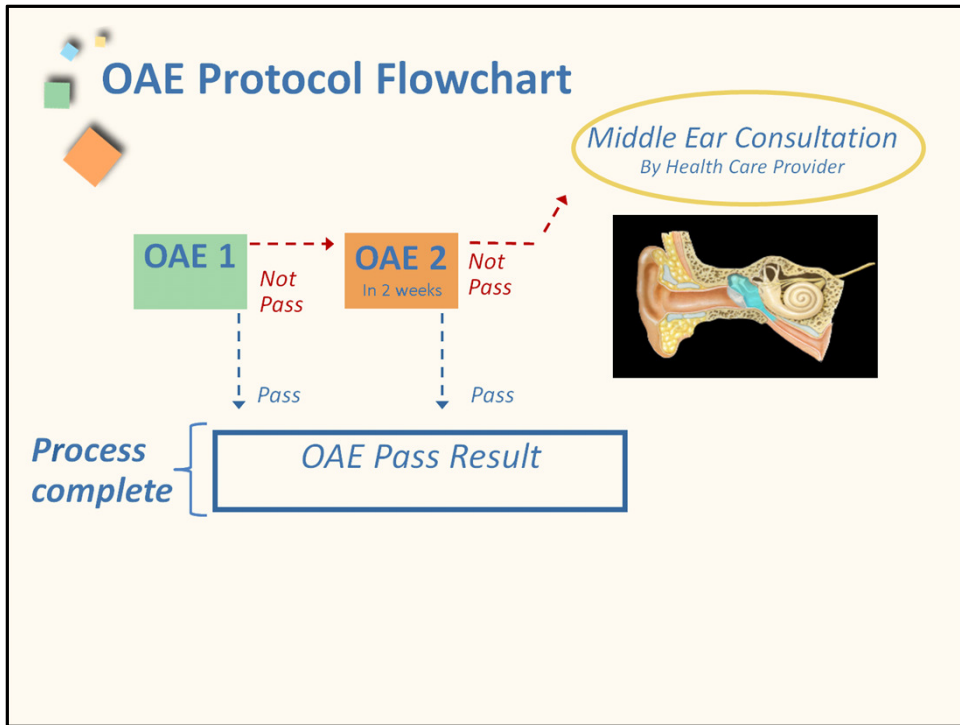


If, however, the ear still doesn't pass the OAE screening, further evaluation is needed. We expect about 8% of children won't pass this second screening and will need to have their ears checked by a health care provider using tympanometry or pneumatic otoscopy...

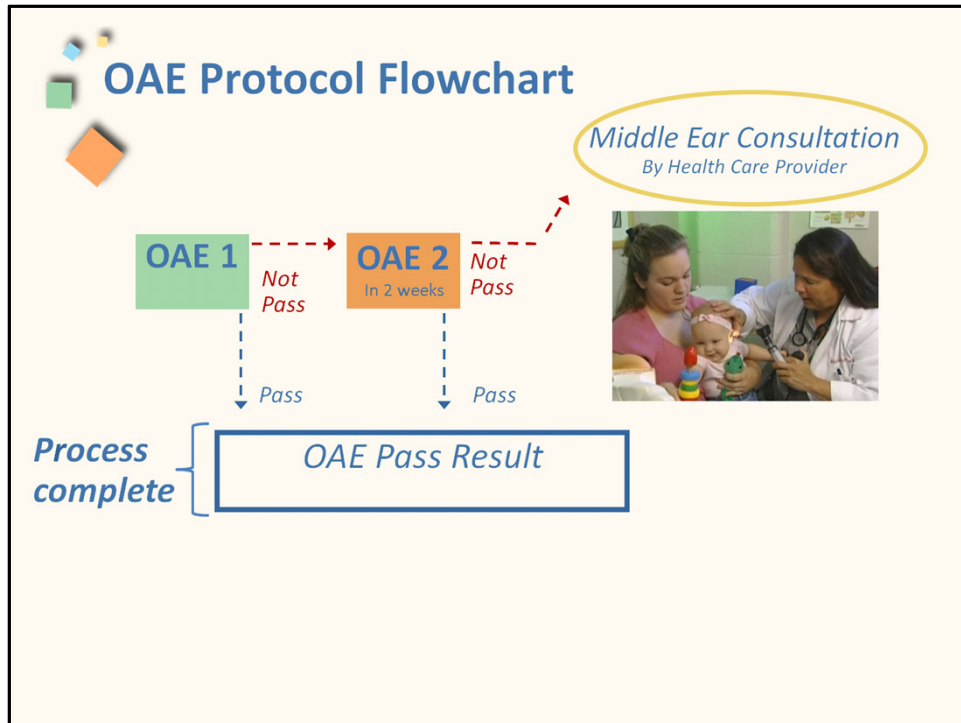




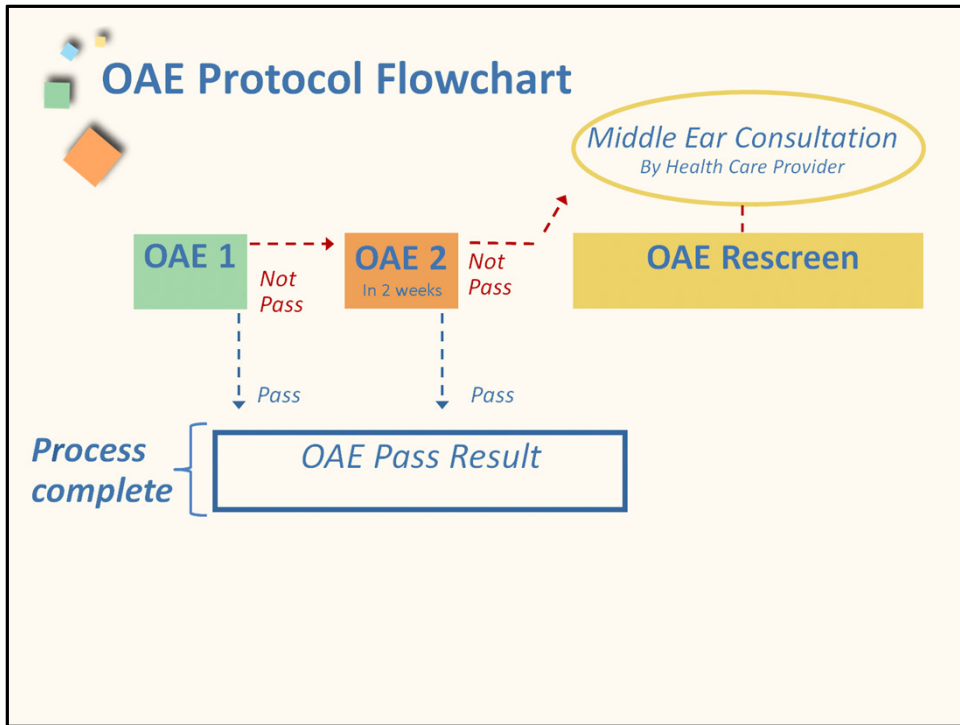
It is not uncommon that a wax blockage...



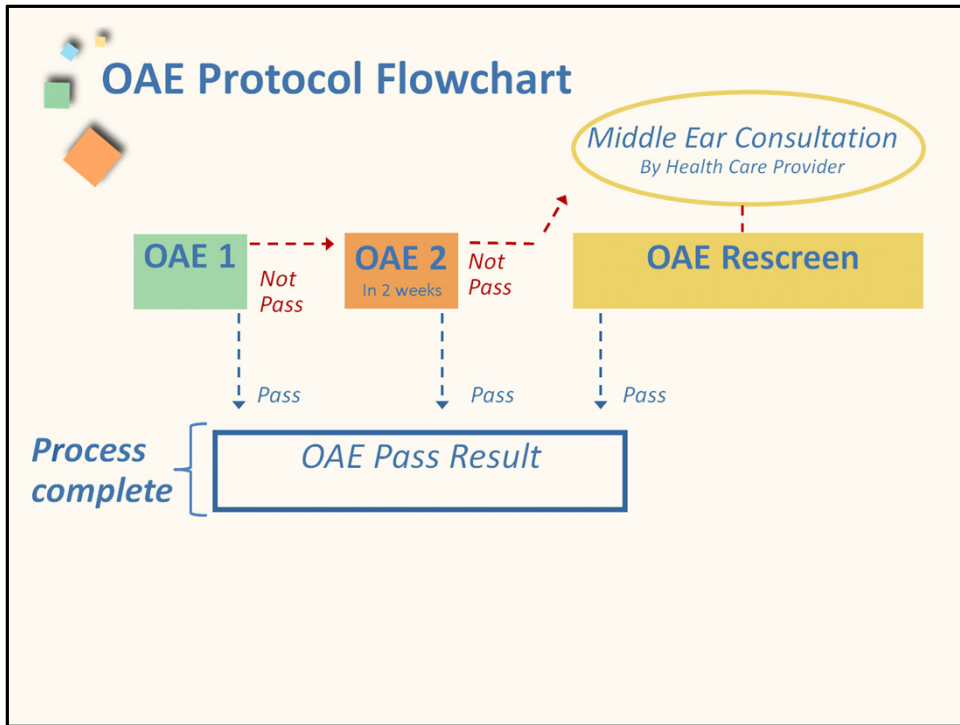
... fluid or inflammation in the middle ear has prevented the OAE screening of the inner ear from being completed.



At this point you will want to intensify your monitoring of the child's follow-up. Consult closely with the health care provider to find out: the results of the middle ear evaluation, and any treatment being provided. Always document the results of the middle ear evaluation. Keep in mind that since the ear hasn't yet passed the OAE screening, we still don't know if the inner ear or cochlea is functioning properly. Most health care providers do not have OAE equipment and therefore cannot complete the screening process. So, you'll need to confer with the health care provider about when the ear should be rescreened.



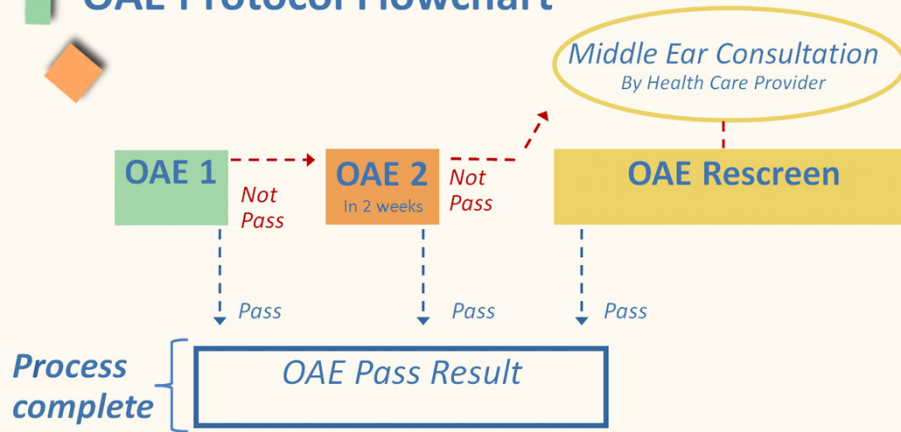
After the middle ear evaluation, conduct an OAE Rescreen.

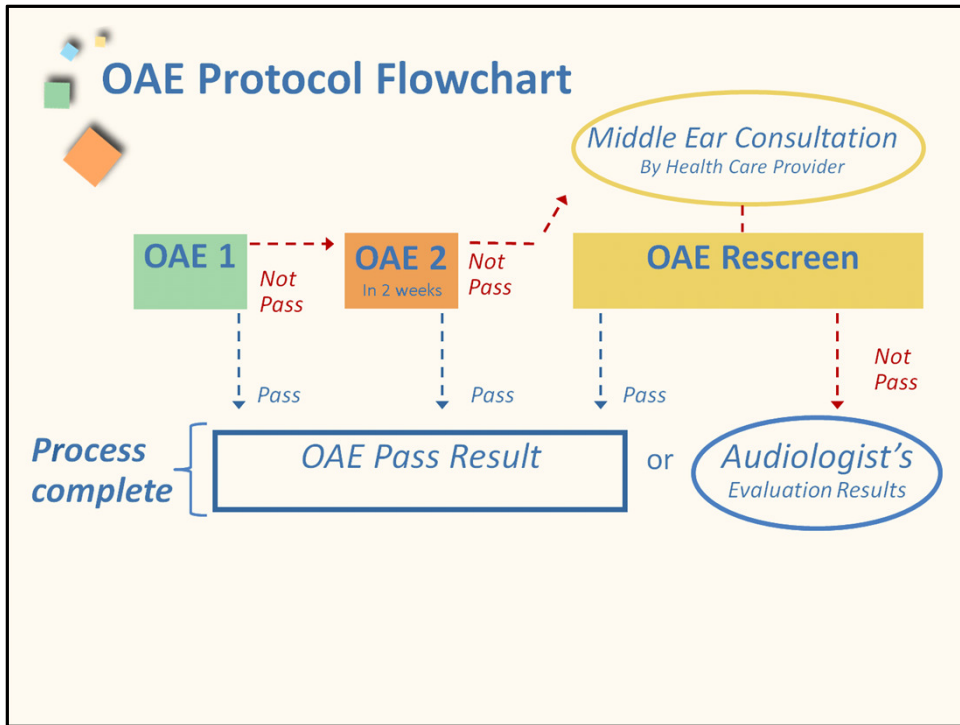


If the ear passes, the screening is complete.

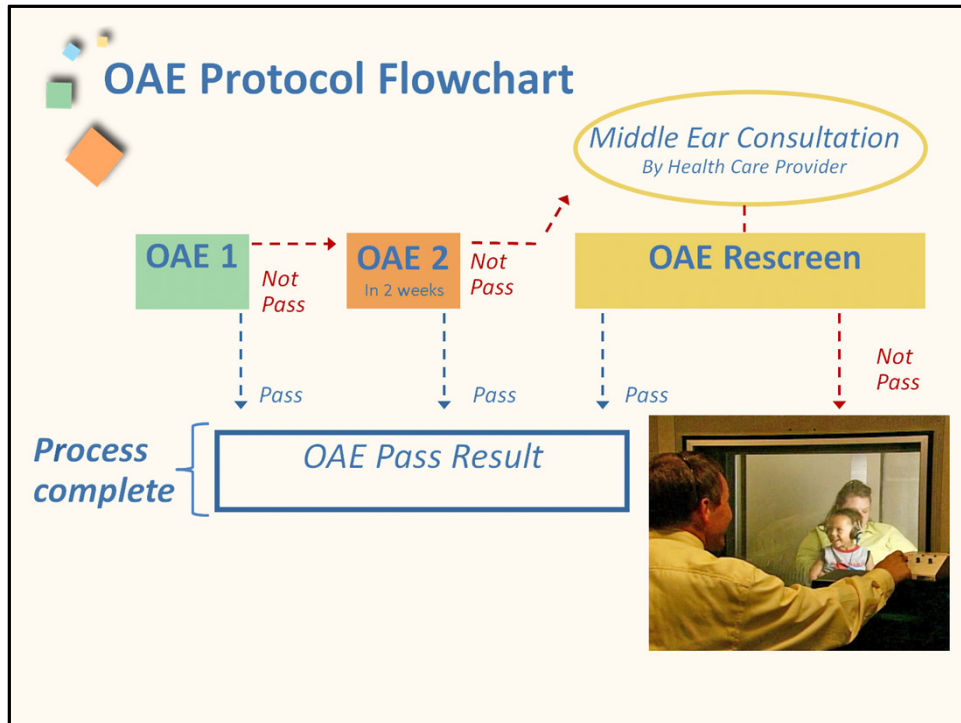


## OAE Protocol Flowchart





If the ear still does not pass, the child should be referred to a pediatric audiologist for evaluation



Less than 1% of children will typically need this step, but it'll be helpful to inform health care providers involved in middle ear evaluations that they may need to make a referral to the audiologist should the ear not pass the OAE rescreen. Be sure to: support the parent in getting the audiological evaluation completed, provide the audiologist with all screening and followup hearing-health outcomes, and obtain a complete report of the audiologist's evaluation.

Resources are available that make following the protocol easy:

Screening and Diagnostic documentation forms walk screeners through the protocol for each child.

A detailed Protocol Guide describes potential outcomes at each point in the screening and followup process and the appropriate "next step."

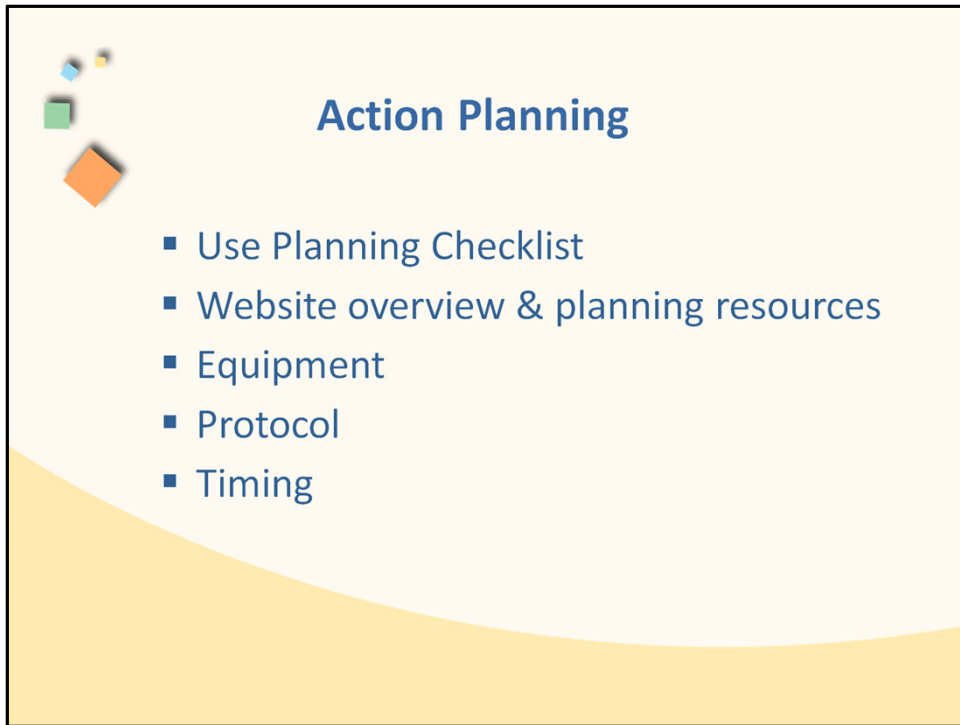
Referral letters and suggested scripts help screeners to accurately communicate screening results to parents.

And remember, although OAE screening can lead to the identification of the most common types of permanent hearing loss, it is only a screening. Any time a parent, caregiver or teacher has concerns about a child's hearing or language development, referral for an audiological evaluation is warranted.

So, that gives you an overview of the complete screening and follow-up protocol from start, to completion keeping in mind the overriding rule...







## Action Planning


- Use Planning Checklist
- Website overview & planning resources
- Equipment
- Protocol
- Timing

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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


# Screening & Diagnostic Log

## Identifying Information



Col A	Col B	Col C	Col EHD1-A	Col EHD1-B	Col EHD1-C	Col D	Col E
(For reporting to State EHD1 Program)						Current Totals (auto filled)	
Directions: Hover cursor here							
			<h3>OAE Screening &amp; Diagnostic Log</h3> <p>(2012 Version)</p>				
Enter child specific information below this line							
<small>Starting Entry Point</small>	First Name	Last Name	Date of Birth (MM/DD/YY)	Birth Facility	Mother Name	ID #	Teacher/Class/ Site/Location



## Screening & Diagnostic Log Screening Results


Col F	Col G	Col H	Col I	Col J	Col K	Col L	Col M
***	***	0	0	0	0	0	0
							
NHS	OAE Screening						
	OAE 1						OAE 2
Newborn Hearing Screening (U, N, P, R) Date of OAE 1 (MM/DD/YY) Pass Not Pass (Refer, Can't Test) Excluded Pass Not Pass (Refer, Can't Test) Skipped OAE 2							

# Screening & Diagnostic Log Evaluation Results

Col N	Col O	Col P	Col Q	Col R	Col S	Col T	Col U	Col V	Col W
0	0	0	0	0	***	0	0	0	OAE 1 Pass Rate
									#DIV/0!
Middle Ear Consultation				Inner Ear Outcome					
Exited program Normal (no condition or disorder detected) Condition or disorder detected Skipped middle ear consultation Exited Program				Exited Program Date of Final Inner Ear Outcome (MM/DD/YYYY)	Pass - program OAE Rescreen Normal hearing Permissible hearing loss ...		OAE Rescreen (S, Not Pass or Skipped) ASD Audiological Evaluation		
									Notes



# Screening & Diagnostic Log Example

Col A	Col B	Col C	Col F#01-A	Col F#01-B	Col F#01-C	Col D	Col E	Col F	Col G	Col H	Col I	Col J	Col K	Col L	Col M	Col N	Col O	Col P	Col Q	Col R	Col S	Col T	Col U	Col V	Col W
		E (For reporting to State F#01 Program)		Current (State F#01)		OAE Pass Rate																			
Directions: Please enter here																									
 <b>OAE Screening &amp; Diagnostic Log (2012 Version)</b>																									
Review	First Name	Last Name	Date of Birth	Birth Facility	Mother Name	ID #	Teacher/Class/ Site Location	State of OAE 1 (MM/DD/YYYY)	Pass	Not Pass (State, Oct 1 Year)	State of OAE 2 (MM/DD/YYYY)	Pass	Not Pass (State, Oct 1 Year)	State of OAE 3 (MM/DD/YYYY)	Pass	Not Pass (State, Oct 1 Year)	State of Middle Ear Consultation (MM/DD/YYYY)	Pass	Not Pass (State, Oct 1 Year)	State of Inner Ear Outcome (MM/DD/YYYY)	Pass	Not Pass (State, Oct 1 Year)	Notes	OAE Pass Rate	
COMPLETE	Kim	Sanders				1487	Northside	09/03/11	1	1															48.67%
COMPLETE	Alonso	Bryans				8560	Northside	09/03/11	1	1															
COMPLETE	Raymond	Sanchez				8639	Eastridge	09/03/11	1																
COMPLETE	Terica	Wynolds				8665	Eastridge	09/03/11	1																
COMPLETE	Nash	Keller				7838	Eastridge	09/03/11	1																
COMPLETE	Marissa	Lee				8675	Hardin County	09/03/11	1																
COMPLETE	Ryan	Waters				9543	Hardin County	09/03/11	1																
COMPLETE	Jake	Burns				8688	Northside	09/03/11	1																
COMPLETE	Emily	Wright				8473	Northside	10/12/11	1	1															
COMPLETE	Loren	Webster				8472	Eastridge	10/12/11	1																
COMPLETE	James	Donscher				8845	Eastridge	10/12/11	1																
COMPLETE	Jessica	Barnick				8177	Eastridge	10/12/11	1																
COMPLETE	Audrey	Hessley				8738	Hardin County	10/12/11	1																
COMPLETE	Serena	Bucham				7482	Hardin County	10/12/11	1																
COMPLETE	Marianne	Osborne				4132	Eastridge	10/12/11	1																
COMPLETE	Nick	Phewitt				2217	Hardin County	10/12/11	1																

# Submission Log

## ECHO Data Submission Log

Current Totals (auto filled)		7	8	1	1	3	1	0	1	1	0	0	1	0	1	Pass Rate			
Enter Program and State	Enter Name of Audiologist															Pass Rate			
Mid-South EHS, CO	Beth Henrys															46.67%			
Directions: hover here	NHS	OAE Screening				Middle Ear Consultation				Inner Ear Outcome				Notes					
		OAE 1	OAE 2																
ID #	Teacher/Class/Site/Location	NHS	Date of OAE 1 (MM/DD/YYYY)	Pass	Not Pass (Refer, Can't Test)	Excluded	Pass	Not Pass (Refer, Can't Test)	Skipped OAE 2	Excluded program	Normal (no condition or disorder detected)	Condition or disorder detected	Skipped	Excluded program	Date of final inner ear outcome (MM/DD/YYYY)	Pass - Program OAE Electron	Normal hearing	Permanent Hearing Loss	
3497	Northside	U	09/03/11	1	1														moved out of state
8560	Northside	P	09/03/11	1															
9859	Eastridge	P	09/03/11	1			1												Refer to Dr. Quinn, check on app't
8985	Eastridge	P	09/03/11	1			1								10/12/11	1			
7858	Eastridge	R	09/03/11	1				1		1	1				10/04/11		1		moderate bilateral hearing loss
9875	Hardin County	N	09/03/11	1															
9543	Hardin County	P	09/03/11	1															PE tubes
8549	Northside	P	09/03/11	1															
6473	Northside	P	10/12/11	1		1													
6472	Eastridge	P	10/12/11	1															
3845	Eastridge	P	10/12/11	1															Re-screen in two weeks (by Oct 29)
8177	Eastridge	U	10/12/11	1				1											Appointment Dr. Gomez on Nov 12
8736	Hardin County	P	10/12/11	1															
7482	Hardin County	P	10/12/11	1															
4532	Eastridge	P	10/12/11	1															Re-screen in two weeks (by Nov 3)
2257	Hardin County	P	10/12/11																New - screen by Oct 27



## Screening Strategies

- Preparing to Screen





## TOOLBOX



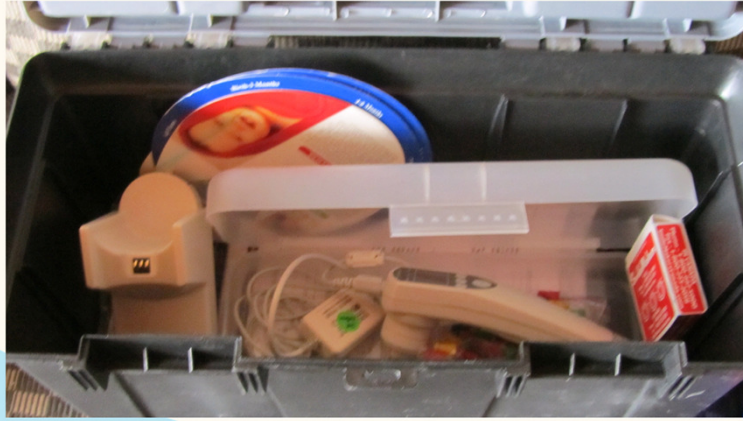
# TOOLBOX



## TOOLBOX



## TOOLBOX





## Screening Strategies



- Preparing to Screen
- Positioning
- Toys and Distractors
- Screening Approaches





## Review

- Use Planning Checklist
- Website overview & planning resources
- Equipment
- Protocol
- Timing

Let's talk for a moment about how this procedure works, so you understand why its possible to screen a child so young, to do it while they are asleep even, and why it is relatively easy to do.

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