

Early Childhood Hearing Screening & Follow-up

Implementing a Successful Otoacoustic Emissions (OAE)
Hearing Screening Program



Video Tutorial
Companion
Handbook



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Introduction to Otoacoustic Emissions (OAE) Hearing Screening



Permanent hearing loss is the most common birth defect in the U.S. Most newborns are now screened for hearing loss, but not every baby gets this screening. Also, some babies not passing the screening require further evaluation, but are lost to follow-up and don't receive it. Even when babies pass the newborn hearing screening, it is important to continue to screen throughout early childhood because:

- Hearing loss can occur at any time in a child's life as a result of illness, physical trauma, or environmental or genetic factors.
- Research suggests that the incidence of permanent hearing loss doubles between birth and school age, from about 3 children in 1,000 at birth, to about 6 in a thousand by the time children enter school.

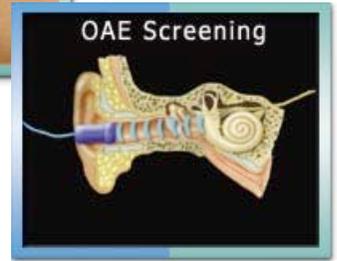
OAE screening is the most appropriate method to identify young children at risk for permanent hearing loss because it is:

- Accurate.
- Feasible--does not require a behavioral response from the child, thus allowing us to screen children under three years of age.
- Quick & easy—most children can be screened in just a minute or two—sometimes in as little as 30 seconds per ear.
- A flexible tool that can be used in a variety of environments, including classroom, home, or health care settings.
- Effective in identifying children who may have a mild hearing loss, or a loss in just one ear, as well as those who have a severe, bilateral loss. In addition, it can be helpful in drawing attention to a broader range of hearing-health conditions that may need further medical attention.

The availability of OAE screening means that it is no longer appropriate to rely on subjective methods such as ringing a bell behind a child's head or depending solely on caregivers' perceptions of a child's hearing. While newborn hearing screening results are valid at the time of the screening, they do not necessarily reflect a child's hearing status in the years following that screening. Although some health care providers are beginning to incorporate OAE screening into well-child visits, this is not yet standard practice. Routine examinations of ears by health care providers should not be mistaken as hearing screening. Unless records include documentation of ear-specific results and the method used, we should not assume that an OAE screening was completed.



How OAE Screening Works



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 small probe is then placed in the ear canal that delivers a low-volume sound stimulus into the ear. A cochlea that is functioning normally will respond to this sound by sending the signal to the brain, while also producing an “acoustic emission!”

This emission is analyzed by the screening unit and in approximately 30 seconds, the result is displayed on the computer screen as a “pass” or a “refer”. Every normal, healthy inner ear produces an emission that can be recorded in this way.

While specifically designed to screen the inner ear for permanent hearing loss, OAE screening also helps to identify children who have:

- blockage in the ear canal,
- otitis media and accompanying fluid that impedes or distorts sound, or a
- middle ear abnormality.

If a child has a structural problem in the middle ear that interferes with hearing, or if fluid in the middle ear, commonly associated with otitis media, blocks the sounds coming in or the “emission” coming back out, the **ear will not pass the screening**. The middle ear must be evaluated through tympanometry or pneumatic otoscopy.



It's important to note that OAE screening does **not** diagnose a hearing loss. It simply identifies those children who need further medical or audiological assessment.

If a child does not pass a follow-up OAE rescreening after tympanometry or pneumatic otoscopy indicates that the pathway to the cochlea is clear, then the child is referred to a pediatric audiologist for a complete evaluation. Of course, whenever parents, caregivers or teachers

express concern about a child's hearing or language development, an audiological evaluation is warranted.

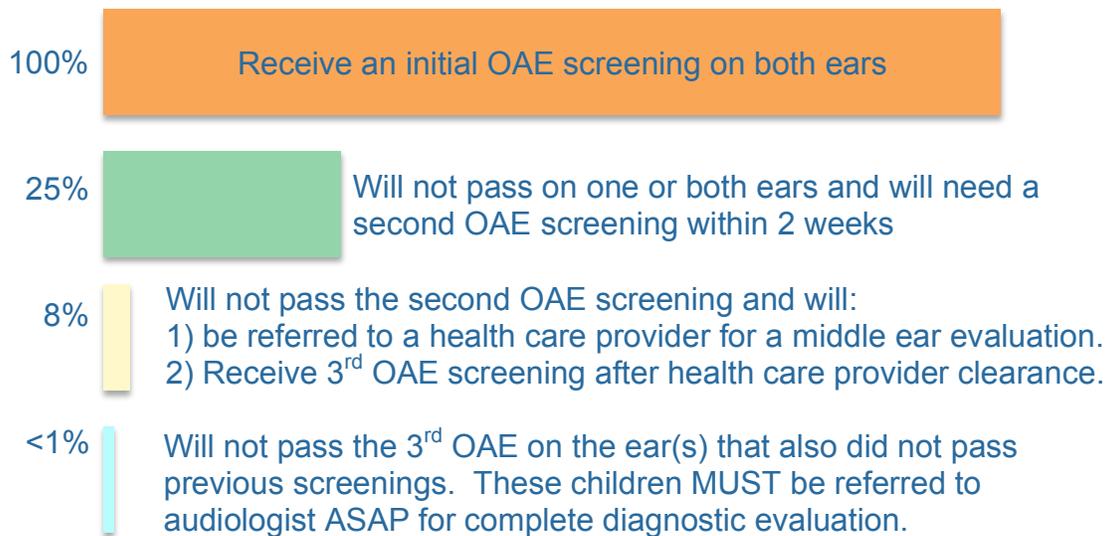
Children who are found to have permanent hearing loss are referred to a local early intervention program and are reported to the state's “newborn hearing screening” or “early hearing detection and intervention” public health program.



Brief Overview of the OAE Screening Protocol – Emphasis on Education Setting

When a child doesn't pass the initial OAE screening on one or both ears, follow-up steps will be necessary. Here's a quick snapshot of the OAE screening and follow-up protocol and what you can expect:

100% of your children will receive an initial OAE screening on both ears. We expect that about 75% of children will pass on both ears and will not need any further follow-up; however about 25% will not pass on one or both ears and will need a second OAE screening within 2 weeks. About 8% of the total number of children screened will not pass the second OAE screening and will need to be referred to a health care provider for a middle ear evaluation. Once any middle ear problems have been resolved and medical clearance has been given, you will then screen this small number of children a third time. We expect that less than 1% of the total number of children being screened will not pass the third OAE screening and will be referred to a pediatric audiologist for a complete audiological evaluation.



Once you are underway with your OAE screening program, check to see if you are getting similar pass and refer percentages. If you find that your pass and refer percentages are significantly different from what we would anticipate at any point in the protocol, you may want to seek technical assistance.



Plan Your OAE Screening Program



Planning an effective OAE screening program includes:

Partnering with a pediatric audiologist

One of the best ways to start and maintain an effective OAE screening program is to partner with a pediatric audiologist—a health care professional who specializes in the identification and non-medical treatment of hearing loss in children.

Whether as a volunteer to your program or as a contracted consultant, a partner audiologist can help you to:

- Select appropriate hearing screening equipment.
- Learn how use that equipment under a variety of conditions.
- Implement an effective screening and follow-up protocol.

Selecting and purchasing appropriate OAE equipment

Select a model and brand of equipment that will work reliably with young children in the setting where you'll be screening. It's important to know that most OAE equipment was originally designed for screening newborns who are sleeping. Only some models are well designed for use with older infants and toddlers who are upright, moving, and generally interactive while being screened.

Also be aware that some units are more expensive and include advanced features that are not useful for lay screeners. It will be helpful to look at tools at kidshearing.org that provide equipment selection criteria, equipment comparisons and reviews.

Identifying and preparing all key participants

A successful OAE screening program depends on making sure that everyone who will be involved one way or another has the information they need. This includes administrators, those who will be doing the actual screening, and those responsible for your program's documentation and tracking systems. Be sure to plan your efforts to allow sufficient time for each of these individuals to review the appropriate video modules and the accompanying implementation tools that have been designed to facilitate planning and implementation.

There are a number of resources that have been created so that each program doesn't have to start from scratch when developing their OAE screening practices. Take some time to look at these key planning and implementation tools at kidshearing.org.



Get to Know Your OAE Equipment



Otoacoustic Emissions equipment has several features in common:

- The screening unit. This is a sensitive piece of electronic equipment, so care for it as you would a computer. Don't drop it, leave it in a vehicle in extreme hot or cold temperatures, or allow it to remain in a humid environment.
- The power supply (battery or adaptor cord).
- The probe assembly. This is an expensive part that can be damaged easily so handle it carefully. Note any visual indicators that help you align the two components to avoid bending the connecting pins. Whenever possible, leave the probe attached to the screening unit rather than detaching it after each use. **Never** bend the cord sharply or crimp it. Some probes also have an inexpensive replaceable nozzle that may need to be changed occasionally, particularly if it gets clogged with wax. Once a nozzle has been removed, you will typically need to replace it with a new one that fits tightly at the base. You will want to have a few extras on hand.
- It is **very** helpful if a clip is supplied to attach the probe cord to the child's clothing during screening. This can prevent the weight of the probe cord from pulling the probe out of the ear. If your equipment did not come with this, you'll want to get one.
- Finally, the disposable probe tips or covers that are designed to fit snugly on the probe and form a seal in the child's ear canal. Use a new probe cover for each child being screened and discard them after they are used.

It is important for you to get to know your specific equipment by referring to the details provided in the manual that came with it. Pay particular attention to information about...

- How to operate the equipment. How do you turn on the unit and start a screening and what displays might you see as you conduct screenings.
- Power supply maintenance. Be sure you understand how your particular equipment is charged, how long it should hold a charge and whether you can screen while it is charging.
- Screening ears with Pressure Equalization or PE Tubes. Check the manual to find out whether you need to change a setting on the equipment if you are screening a child who has Pressure Equalization tubes.
- Equipment calibration and periodic software updates. You will need to have your equipment calibrated annually by the manufacturer to make sure it's running effectively. Also ask about software updates so that you have the benefit of the any recent improvements which can enhance the performance of your equipment.



OAE Screening Step-by-Step



To begin the screening procedure:

- First, visually inspect the ear by placing your finger in front of the ear, pulling gently back on the ear to open the canal. Look in as far as you can to make sure that it's not blocked by anything that would obstruct the sound going in or the otoacoustic emission coming back out.
- If there is drainage coming from the ear, which is occasionally accompanied by a foul smell, or if there are significant malformations of the ear, don't proceed with the screening. Instead, bring the condition to the attention of a health care provider.
- If you notice minor malformations around the ear, such as skin tags or pits, you'll want to bring these to the health care provider's attention as well, but you can go ahead the OAE screening.
- If some wax is present, you can conduct the screening unless the canal appears to be totally blocked.
- And, if you know that a child has PE tubes, you can proceed with the OAE screening, but be sure to check your OAE equipment manual to determine if any special adjustment is required to screen an ear with PE tubes.

In most cases, ears will pass the visual inspection and you can proceed with the OAE screening.

- Note the size of the ear canal and choose a probe tip that is as large as, or slightly larger than, the ear canal opening.
- Place the tip over the end of the probe, pressing down firmly. If you're using a soft, foam tip, compress it into a mushroom shape before inserting it into the ear canal.
- Turn on the equipment.
- Clip the probe cord to the back of the shirt where the individual being screened can't see or reach it easily. This keeps the cord out of the way and also helps keep the probe in the ear during screening.
- With one hand grasp the ear, pulling it out to open the canal. With the other hand, take the probe and insert the tip into the ear canal, toward the nose, then turn it slightly back, pushing it firmly into the canal with a slight twist. If





you have chosen the correct size of probe cover, the probe will stay firmly inserted in the ear canal after you let go of it.

- Be assured that probes have been designed so that with the proper tip covers, they cannot extend deeply enough in the ear to touch or damage the ear drum.
- After placing the probe in the ear, always let go. **Never hold the probe in the ear during the screening.** Holding the probe in the ear is likely to cause it to press up against the wall of the ear canal resulting in a refer response.

Learning how to select the right sized tip, and how to insert the probe firmly into the ear canal, is key to reliable screening.

Now, push the button to start the screening. Watch the displays. They'll often help you know if you have a secure probe fit and may give you an error message if there is not a good probe fit or if too much noise is detected.

Some equipment will indicate the progress of the test, showing sound frequencies or pitches, while others will simply indicate the test is in progress. When the screening is complete, the unit will display a result indicating a "pass" or a "refer."

Once you have a result, you can remove the probe from the ear. You can typically leave the same probe tip in place to test the other ear but be sure to check to make sure that it's not blocked with wax. If it is, remove the probe cover and select a new one. If there is any wax residue on the probe itself, remove it with a dry tissue, being sure to wipe out and away from the base of the probe. Put the new probe cover on and screen the other ear.



Develop Your OAE Screening Skills

It is important to develop your OAE screening skills by practicing on yourself and other adults before attempting to screen children and manage their behavior! This will give you a good idea of:

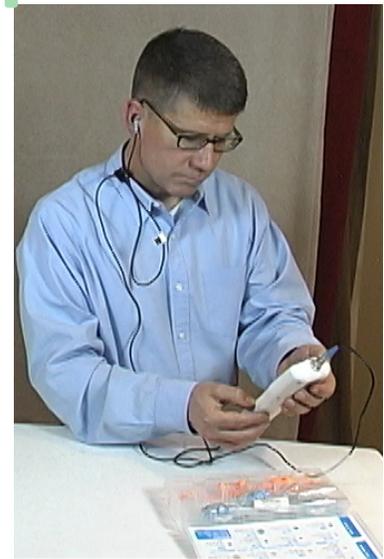
- What the children will experience during screening.
- The sounds the probe should be sending into the ear.
- How the screening process is likely to proceed under ideal, and less than ideal conditions.
- The display screens you may encounter.

Print the practice guide sheet that accompanies this module and follow it as you walk through the steps of the screening procedure. Once you have successfully screened yourself, practice screening other adults until you no longer need to refer to the guide. You may want to have someone monitor your process using the guide sheet to make sure you aren't missing any steps.

Once you feel confident in completing the screening under ideal conditions, move on to the additional practice activities outlined on the guide sheet. These will help you understand the importance of:

- Good Probe fit— which is accomplished by checking that the probe is not clogged with wax, by selecting the appropriate size probe cover, and then making sure the probe is fitted snugly in the ear canal.
- Minimizing movement of the person being screened – which helps to maintain a good probe fit.
- Minimizing what we call “internal noise”--vocalizing, laughing, eating, sucking or chewing by the person being screened.
- Minimizing what we call “external noise” in the environment--loud speaking or laughing nearby, noisy toys, motorized equipment or street sounds.

Poor probe fit and excessive movement, as well as other internal or external noise, can disrupt the screening process, sometimes causing it to slow down or stop altogether. Under these conditions, the screening unit may display an error message indicating too much noise, a problem with probe placement, or it may simply show a “refer” result. Familiarize yourself with the common messages that your screening equipment displays. Be aware, however, that the error messages are not always able to identify the source of the problem accurately.





So any time you get an error message or refer result, you will want to try again, making sure you do everything possible to improve the screening conditions following the **Four keys to successful screening**:

- Good probe fit
- Minimize movement
- Minimize internal noise
- Minimize external sound

As you practice, be aware that adult's emissions do not tend to be as strong as children's. Thus, some adults, especially middle age and older, may not pass. If an ear does not pass when rescreened over a several-week period, and the individual is concerned about his/her hearing, this may warrant an audiological evaluation.



Get Ready to Screen Children

Now that you have gained some basic skill using the OAE equipment to screen yourself and other adults, it is time to get ready to screen children.

Collect screening supplies and toys

Make sure you have all of the supplies you need in advance of the day you intend to screen. These include your screening equipment (fully charged or with extra batteries), probe covers in a variety of sizes, a small bag for used probe covers, hand disinfectant, documentation forms and a pen, toys, reward stickers, and a flashlight or headlamp if you might be screening children in dim environments during naptime.

As you consider toys or distractors, look for ones that are quiet, novel, and that are visually or tactilely stimulating, like a flashing light, bubbles, or an object that gently vibrates or has interesting textures. You'll want to have several different unique toys easily accessible, but you may also use objects already available in the child's environment. Some screeners have found that a portable tool or tackle box is helpful for keeping all the supplies together and within easy reach.

Decide where and when to screen

Screening can be conducted in a variety of locations in which children are likely to feel comfortable, safe and happy. This can be in a classroom, an office, a living room, an outdoor play area, a car seat, or wherever a child is napping or being held by a caregiver. Take advantage of the equipment's portability as you identify the best environment. Plan in advance how you will comply with your program's infection control guidelines, such as washing your hands or using disinfectant wipes prior to screening a child.

Next, decide where you will set the equipment, forms for documenting results, screening supplies, a bag for used probes covers, and a variety of age-appropriate quiet toys, distractors and reward stickers. Also, remember that the quieter the environment, the faster the screening process will go, so make modifications as needed to quiet other children nearby, or turn down the volume of a TV in a home.

If at all possible, select times for screening when children are the most likely to be content as opposed to when they might be fussy, needing a snack or a nap. If you are combining hearing screening with other screenings or health related activities, you'll want to conduct the OAE screening before the other procedures.





Prepare adult helpers and children

Although you can conduct the screening without assistance, it is usually much easier to have a set of helping hands. If enlisting the help of another adult, such as a teacher, parent or assistant, discuss the role you want them to play. Explain that you want to make this a positive experience and that you'd like their help in holding and/or playing **quietly** with the child, keeping the child's attention and hands engaged, while you place a tiny microphone in the ear for a minute or so. Share with them the handout accompanying this module that outlines the ways they can help you. You may also prepare young children and assistants by having them watch the "Listen Up" sing-along video accompanying this module or play listening games prior to screening.



Just prior to screening, test the screening equipment on your own or another adult's ear that typically passes to make sure it is functioning properly. As you prepare to screen a particular child, if adults familiar with that child are present, ask about any concerns related to hearing or language development and document these concerns. Direct referral to a pediatric audiologist may be warranted. Also ask whether the child has pressure equalization (PE) tubes. Some screening equipment requires an adjustment for PE tubes, so check your manual for details. Becoming a skilled screener also includes knowing how to elicit cooperation from children. So, be sure to watch the video module, "Essential Strategies for Successful Screening."



Strategies for Successful OAE Screening

Once you have prepared for screening, there are several strategies that will help make it a positive experience for the children and for you!

- Create a fun feeling around the screening activity.
- Position the child, yourself and other helpers in a way that is comfortable and that allows the child's behavior to be naturally directed.
- Use toys, distractors and rewards effectively.
- Document the screening results accurately.



Create a fun feeling

Creating a fun feeling around the screening involves establishing rapport with children. For example, you may tell a child that you are going to play a listening game and include another adult as the first person to be screened, placing the probe near their ear, and asking them if they can hear the birdie sing. If you are working with a group of children, ask the teacher for suggestions about which child might be the most cooperative and should be screened first to set a good example and tone for the other children to follow.

When eliciting children's cooperation, tell them what you are going to do rather than asking if they want to participate. You may even suggest to the other children that they have to wait their turn, just like they would with other fun activities. Be sure to use terms that describe the activity as fun and interesting and avoid phrases like "test your ears," or stating that the activity "won't hurt," or "won't be painful," because you are likely to get a response you don't want!

Position yourself and the child

Position yourself to the side of, or slightly behind, the child to facilitate probe insertion. If possible, have another adult hold the child snugly or keep the child distracted, hands occupied with another activity.

Use toys and distractors

Present novel toys and distractors at the moment when you most need the child's cooperation. If a child loses interest in one toy or distractor, present another. Sometimes a gentle caress or playful touching game can distract the child from the sensation of the probe in the ear. Also consider playing a child's song on a portable musical device, presenting the ear bud to the ear not being screened. Once complete, reward the child with praise and, if desired, with a sticker or reward, making sure that the same praise is given no matter what the screening outcome is.



Document screening results accurately

Once the screening is complete, be sure to document the results accurately. And remember, if you do not get a passing result, as long as the child is cooperative, try the ear again, making sure you have a good probe fit and have minimized internal and external noise.

Now we'd like to show you a variety of strategies for engaging children in playful ways that are likely to meet with success, as well as add a few cautions about common errors to avoid:

Keep those hands away from probe by redirecting the child to manipulate an object or simply to grasp an adult's finger or hand.

Offer children choices about where to sit or what toy to play with, but not a choice about whether to be screened.

Familiarize the child with the probe before attempting insertion into the ear by touching it to their leg, arm, hand or cheek, pointing out how soft it is. You may also elicit the child's help in pretending to screen a doll or stuffed animal.

If a child is uneasy about being screened but can be soothed by a pacifier or snack, you can attempt to screen while the child is sucking or chewing. This introduces noise, however. So, if the result is a "refer" you will need to repeat the screening when the child is not sucking or chewing.

Screen in groups. This can help some children who may be fearful to become more comfortable with the process, as long as they are seeing others having a positive experience.

Sometimes children who have been treated repeatedly for ear infections or conditions may be especially reluctant. They may need more time to watch other children participate in the process before an attempt to conduct the screening is made on a subsequent day. If a child remains uncooperative, you may want to have a different screener attempt to elicit cooperation or see if you can screen while the child is asleep.

You should now be ready to start screening children. As you can see, there is no single approach that will work with all of the children all of the time, so be creative and flexible! Remember to return to these videos for reminders of the screening and follow-up process as well as helpful hints to managing children's behavior. Also, be sure to view the video modules that describe what to do when children do not pass the screening.

The image shows a screenshot of the 'OAE Hearing Screening Form'. At the top, it says 'OAE Hearing Screening Form' and 'ECHO'. Below that, there are fields for 'Program', 'Child's Name', and 'Date of Birth'. There are also checkboxes for 'Screened for hearing loss at birth?' with options for 'Unscreened', 'Screened', 'Pass', and 'Refer'. The form is divided into sections for 'Right Ear' and 'Left Ear', each with a 'Pass' or 'Refer' checkbox. There are also checkboxes for 'No Answer' and 'No Answer - No Sound'.



OAE Screening Protocol in Detail – Education Setting

The specific goal of OAE screening is to identify children who may have permanent hearing loss associated with problems in the inner ear or cochlea. An added benefit is that we may also identify children who are experiencing temporary hearing loss due to conditions such as wax blockages, fluid or infection called otitis media.

There is one main rule to remember: The OAE screening and follow-up process is complete when either:

The child **passes the OAE screening** on both ears,

or

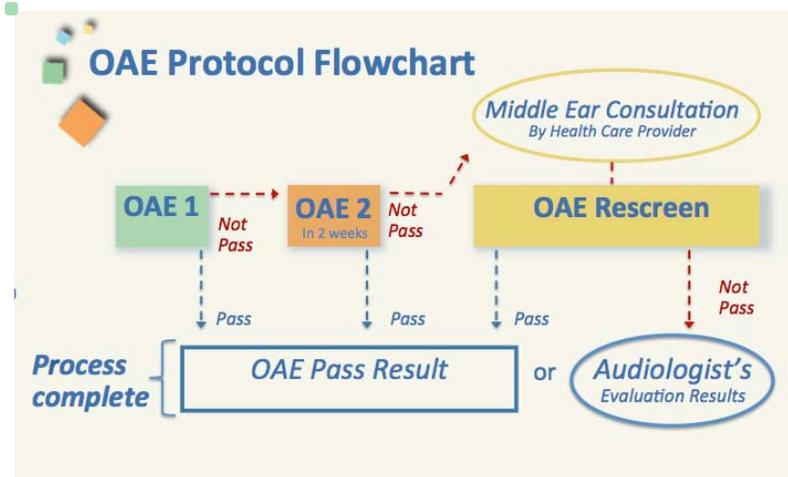
The child **receives an evaluation from an audiologist** and you've obtained those results.

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. 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.

The image shows a screenshot of the 'OAE Hearing Screening Form'. The form is divided into several sections:

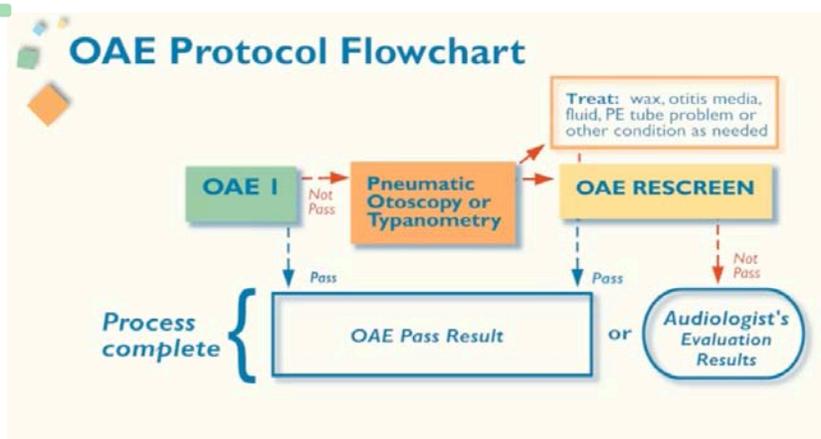
- Child Information:** Fields for Program, Child's Name, Date of Birth, and Sex (Male/Female).
- Screening Information:** A section for 'Screening for hearing loss at birth?' with radio buttons for 'Unscreened', 'Not Rescreened', 'Rescreened', and 'Referred'.
- Screening Results:** A flowchart area for 'Visual Inspection' and 'Middle Ear Evaluation' (MEE) and 'OAE' (Otoacoustic Emissions) for both the left and right ears. It includes checkboxes for 'Pass' and 'Fail' and a 'Notes' field.
- Next Steps:** A section for 'Visual Inspection' and 'Middle Ear Evaluation' with checkboxes for 'Pass' and 'Fail' and a 'Notes' field.
- Form Footer:** Includes a 'Form Code' and a 'Form Version' field.

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.



OAE Screening Protocol in Detail – Health Care Setting

To be effective, OAE screening must be integrated into a broader hearing-health protocol that ensures appropriate follow-up when children do not pass the screening. It is therefore important to develop a working relationship with at least one **pediatric** audiologist in your community who will understand your screening protocol, promptly evaluate children not passing the screening, and answer questions as they arise.



In most cases, the visual inspection of the outer ear will not reveal any abnormalities and you'll simply proceed to the OAE screening. However, if there's blockage in the ear canal, signs of infection, or any malformation that has not been documented in the child's medical record, get clearance from the health care provider before

conducting the screening. Note that it's especially helpful to document results on a screening form that reflects an appropriate protocol while leading you through each step in the process.

When a child **passes** the OAE screening on both ears, you can assume that the hearing system is functioning properly. This is true for children with PE tubes as well. Unless there are additional concerns about hearing or language development, no further action is needed until the next scheduled screening.

If after several consecutive attempts an ear doesn't pass, the next step is pneumatic otoscopy or tympanometry performed by a health care provider to determine if the pathway to the cochlea is clear or if blockage or fluid is impeding the screening. If NO blockage or fluid is evident, the health care provider will need to decide whether to schedule an OAE rescreen or refer the child **DIRECTLY** to a pediatric audiologist.

If the health care provider identifies middle-ear fluid, active otitis media, or a problem with a PE tube, a treatment plan is outlined. After that treatment is completed and any residual fluid has dissipated, conduct an OAE rescreen. Note that rescreening after medical clearance is extremely important. The OAE equipment is able to screen the inner ear only when the pathway through the middle ear is clear.



Establish a Tracking and Monitoring System

An OAE screening program will only be effective if it helps children get the hearing health services they need. This requires documenting which children pass the screening and tracking those who do not pass through each step of the follow-up protocol. A tracking system should also help administrators monitor overall program quality.

At a minimum, a tracking system needs to:

- Allow users to record child-specific OAE screening and follow-up evaluation results.
- Reflect each step in the OAE screening and evaluation protocol.
- Indicate which children have completed the process, which have not, and what the next step is for those who need further screening or evaluation.
- Make several calculations including;
 - ✓ pass and refer rates
 - ✓ the number of children in the follow-up process
 - ✓ the number of children diagnosed with permanent hearing loss.

The Tracking Outcomes Tool accompanying this module has been designed specifically for use in educational settings and includes all of these functions.

As you develop a process for managing data and tracking children:

- Establish policies and procedures for data sharing. This includes two-way sharing of screening and evaluation results with other educational and health care providers and audiologists. Having a program policy for data sharing that includes signed releases from parents prior to screening can significantly contribute to successful and timely follow-up.
- Coordinate with State Systems. Let the state Early Hearing Detection and Intervention program (also known as the state EHDI or newborn hearing screening program) know about your OAE screening activities. They may be a valuable source of support to you and to families of children identified with hearing loss. The State EHDI program will want you to report any child who is newly diagnosed with a permanent hearing loss, so you'll want to make a plan with them on how to report this information.

As you determine your system for tracking and follow-up, be sure to carefully review the tracking tools accompanying this module. And remember, the video tutorials and other resources available here can continue to help you as you proceed in implementing OAE screening with the children you serve. Return to KidsHearing.org as often as needed!