

SCREENING PROCEDURES

Flow charts (Figure: 8) on pages 32 and 33 illustrate the screening process.

Play Audiometry:

- Play audiometry is the preferred method when screening children 2.5 to 6 years old and children with developmental delay.
- To accommodate this age group a child's table and two chairs will be required.
- Position the chairs at the table so that the child will sit at the dominant side of the screener.
- Place 12 blocks being of the same color, size and free of numbers and pictures and basket on the table.
- Place an ANSI Calibrated audiometer set to the **right ear, 90dB and 4000Hz (pulsed tone if possible)** also on the table in front of the screener's position.
- Place the earphones on the table so that the cushions are not together, allowing the tone to be heard in the room.
- Helpful Hints:
 - Visually demonstrate all verbal instruction as English may be a child's second language.
 - Never present your instructions as a question, i.e.; "Do you want to play a game?" They may say "NO". Say, "We are going to play a game."
 - Use one word to identify the tone i.e.; birdie, beep, noise or sound, do not call it all for names in one screening.
 - At any time the child does not follow the directions correctly do not go on to the next procedure. Repeat that step until the child catches on to the correct behavior.
 - Do not give visual or auditory cues when depressing the tone switch.
 - Avoid establishing a rhythm or pattern when presenting the tone.
 - Do not accept smiles or other facial expressions as a response. Only the block in the bowl is acceptable.
 - **If the child does not respond to the presentation of a "beep", it is because the child did not hear it, does not understand the procedure or wasn't paying attention.** When you perform the procedure correctly you will be able to determine why the child did not respond.

INSTRUCTIONS (Child with normal hearing)

1. Bring the child in by having physical contact with the child by either holding the child's hand or placing your hand on the back of the child and guiding them to the direction you want.

2. "We're going to play a game and it sounds like this. Listen". Present the beep and say "WOW". Repeat step.
3. Give a child a block and you take a block. "When you hear the beep put your block in the basket."
4. Say "listen." Present the beep and you put the block in first and watch the child follow.
5. Give the child a block and you take a block. "When you hear the beep put your block in the bowl real fast. Let's see how fast you are!" Your voice should sound excited.
6. Say "listen" present the beep and let the child win.
7. Give the child a block. Do not take a block for yourself. "When you hear the beep put the block in the bowl."
8. Say "listen." Present the beep and the child will place the block in the bowl without you having to participate.
9. Give the child a block. Turn the audiometer down to 50dB and place the earphones on.
10. Say "listen." Present the beep. If you were successful in conditioning the child and the child is not distracted and has normal hearing the child will place the block in the bowl. **If the child does not respond correctly review the instructions below.**
11. Give the child a block. Turn the audiometer down to 20dB.
12. Say "listen." Present the beep. If you are successful continue to 3000, 2000, 1000 and then switch ears and do 1000, 2000, 3000 and 4000Hz.

Alternate Situations

Child who does not respond at 50dB

Child does not respond correctly at 50dB from (from step 10 of the previous instructions).

- This may occur when the earphones are placed on for the first time. You're at 50dB, Right Ear and at 4000Hz you present the tone and there is no response. This means: The child does not respond to the presentation of a "beep", it is because the child did not hear it, does not understand the procedure or wasn't paying attention.
- Without giving new instructions or acting like something negative occurred switch the audiometer to the left ear.
- Present a "beep". If the child responds correctly then you can assume the no response at the right ear was due to either did not hear it or wasn't paying attention. You do know the child knows how to play the game. When you finish the left ear and go back to the right ear you will discover the reason for a no response.
- Complete the screening at the left ear and return to the right ear.

- At the right ear the audiometer should be at 20dB, Right Ear at 1000Hz. Screen at 1000, 2000, 3000 and 4000Hz. If the child responds at 4000Hz at 20dB then the original no response was because of not paying attention. If the child does not respond at 4000Hz at 20dB, increase the intensity to 50dB. Still no response, place a minus on the audiogram at 4000Hz Right Ear and you can guess that the no response is because the child cannot hear it. The child knows how to play the game and is paying attention.

Child who does not respond at 20dB

Child with a possible hearing loss

1. Same instructions for a normal hearing child.
2. You do 4000, 3000, 2000Hz at the right ear but when you get to 1000Hz the child does not respond at 20dB. What does that mean? The child did not hear it or the child was not paying attention. To identify which is the correct answer to this question, **increase the intensity to 50dB and present the beep**. You get a response. This tells me the child is paying attention.
3. Give the child a block. Turn the audiometer down to 20dB.
4. Say "listen." Present the beep and the child still does not respond. The no response is because the child cannot hear it.
5. Give the child a block. Score the audiogram as a no response for that frequency and switch ears.
6. Say "listen" present the beep. This time the child responds until you get to 4000Hz. The child does not respond at 4000Hz at 20dB. Increase the intensity to 50dB and present the beep. No response. Since the child has demonstrated he/she knows how to play the game and that he/she is paying attention this no response has to mean a hearing loss.
7. Score the audiogram. We are finished with the screening but the child still has the last block in their hand. Before removing the earphones you need to have the child place the block into the basket so they don't suspect there is a problem.
8. Increase the intensity to 50dB and present the beep. The child responds. Remove earphones and praise the child for their good work.

This scenario has the child not responding at 1000Hz at the right ear and 4000Hz at the left ear. Wait 2 to 6 weeks repeat the screening. If the child still does not pass refer the child for medical/audiological evaluations.

Child does not understand the game

If a child never understands how to play the game and/or you cannot get them to place earphones on, stay with the child for 3 minutes playing the game without earphones. Stop at 3 minutes and have the child come back for a re-screen. If the child is still unable to catch on to the game, refer this child. Instruct parents on the game so they can practice with their child at home.

Child not paying attention

As demonstrated in the past screening scenarios anytime a child does not respond at 20dB increase the intensity to 50dB. In doing this you get their attention and will have the child cooperate to get reliable results at 20dB. With some children it is necessary to repeat this several times in a screening to obtain successful results.

Uncooperative Child

This is the most difficult of all to screen but the most important to screen. This behavior may be due to a hearing loss. So it is imperative that you give 3 minutes of your time to attempt a screening as if the child was cooperative. Ignore the behavior. Most children want to play a game they just need the opportunity. If after three minutes you are still unsuccessful, stop the screening and repeat this procedure in 2 to 6 weeks. Have the parents practice this game at home. If the child still is not cooperative for the second screening, refer the child to the appropriate health professional, physician or audiologist.

Screening using hand raising

For children over 6 years of age you may use hand raising to demonstrate a response. It is not necessary for the child to know right or left when raising hands. When screening at 20dB the only ear the child can hear the beep is at the ear you are screening.

Instruct the child to raise their hand every time they **think** they hear the beep. You can do one practice with the child with earphones off and the audiometer at 90dB. Say "listen" and present the beep. If the child responds go down to 50dB and place the earphones on. If you get a response at 50dB go down to 20dB, doing 4000, 2000, 1000. Switch ears and do 1000, 2000 and 4000 Hz. Follow the same sequence for using play audiometry.

Screening results and referrals

Following completion of the screening, results must be evaluated on a "pass" or "does not pass" basis. **Not responding at the screening level (20-25dB) at any frequency in either ear shall constitute a "does not pass"**. Record the hearing screening results in the appropriate area on the screening form.

Rescreen the child after two to six weeks. If the second screening is "does not pass", the child needs to be referred to the appropriate health professional, physician or audiologist. Not passing a hearing screening does not mean the child has a hearing loss. The results indicate a possible hearing problem and that further testing is necessary.

Children may be referred to the California Children's Services (CCS) program if they have met the "does not pass" criteria for two screenings done at least six weeks apart. Please contact the local CCS program for specific information on referral requirements.

Notification of Results and Follow-up

A crucial component of a hearing screening is follow-up if a child has not "passed" all the screening measures. Ensure that further evaluation was performed in determining if there is a hearing loss, degree of hearing loss, location of hearing loss and recommended treatment. The sooner a child with a hearing loss receives necessary treatment or intervention, the more likely the child will adequately develop speech, language and communication skills.