

Informal assessment of behaviour as an indicator of hearing difficulties

From
6
months



Jackie Clark
Clinical Professor,
School of Behavioral
& Brain Sciences,
UT Dallas/Callier Center,
USA; Research Scholar,
University of
Witwatersrand,
Johannesburg, South Africa

We know that good hearing is important for even very young children to learn language and social skills. Early identification of a child's hearing difficulties leads to early management of his/her hearing loss. This will result in more successful communication at home, at school, and eventually at work.

While there exist advanced behavioural hearing assessments that are objective and require specialised training, this article describes simple and informal observations of a child's behaviour that can be used to assess his/her ability to hear. These can be made at home, in health centres or immunisation clinics, by parents, caregivers, community workers, primary health workers and teachers. Age plays a part in a child's behaviour in listening situations, therefore optimal ages are suggested for each informal test.

In the course of the observations described below, if there is an indication that the infant or child may have any amount of hearing loss, it is important to refer the child to a specialised clinic for further testing.

Similarly, if the child has at least one of the 'high risk' indicators for hearing impairment (see page 3 of this issue), there is good reason to have his/her hearing tested or monitored over a period of time.

Important note: Since a child's attention can vary, it is wise to observe them while in a quiet room and to test again to check the child's responses are consistent (if the responses differ, you can test once more).

12 months of age and older: two quick observations

The following simple observations can take place in just a few minutes and can be made by a parent, caregiver or health worker.

Whispered voice test

This requires the child to be capable of speaking and understanding language.

Stand or sit at arm's length behind the child and, out of view:

- Say the child's name.
- Softly whisper questions that the child would be motivated to respond to (e.g. 'Shall we go to the market?'). Adapt your question to the child's age.
- Alternatively, stand or sit in the same position and ask the child to listen closely and to repeat the few letters or numbers that are being said behind them (e.g. 'A24', or 'J6K').

In both cases, if the child is unaware of anyone speaking or unable to provide the correct response, this would indicate that the child is having difficulty hearing. Further testing should be recommended.

Finger rub test

The parent or health worker stands directly behind the child and rubs a piece of paper between thumb and forefinger within about 2 inches (5 cm) of each ear (and out of view, making sure not to accidentally touch the child's hair), first softly then vigorously. Each ear can be tested separately.

If the child's behaviour does not change nor indicate he/she heard the noise, this means that further testing is required.

Six months to 36 months of age: listening activities

The instructions and listening activities below have been adapted and simplified from Karen Anderson's *Early Listening Function*.¹

The infant or toddler should be awake and alert, but calm, and seated or reclined in a quiet room.

You need two persons for this test (referred to as 'observers'), in addition to the person holding the child. The testers can be relatives of the child or health/community workers. One observer stands behind and performs the listening activities listed below. The other observer stands in front of the child to observe his/her reactions.

The observer standing at the front notes whether the child responds to any of the listening activities, e.g. whether the child:

- startles
- mimics the sound
- turns his/her head in the direction of the sound
- becomes quieter or more active when the sound is heard
- cries.

The second observer performs the listening activities listed below at three distances, beginning with the furthest away:

- 10 feet (3 m)
- 5 feet (1.5 m)
- 6 inches (15.4 cm)

A questionnaire can help collect information on listening difficulties.

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TABLE 1 LISTENING ACTIVITIES TO ASSESS HEARING DIFFICULTIES*

	Activities
Soft sounds	1 Observer saying 'sh, sh' quietly
	2 Hands together, palms rubbing together briskly
	3 Observer saying 'buh buh buh' quietly
Normal sounds	4 Observer singing a familiar song
	5 Clapping index and middle finger in the palm of the other hand
	6 Observer saying 'ship ship ship' in a normal voice
Loud sounds	7 Observer saying 'shoo-buh, shoo-buh' in a loud voice (as if addressing someone on the other side of the room)
	8 Knocking loudly with knuckles on a flat wood surface, e.g. the top of a stool
	9 Hitting a frying pan or a metal pot with a metal cooking utensil, e.g. spoon (do not do this at 6 inches away if the child responds to any other distances)

*Adapted from Anderson (2002)¹

The tester should start at the furthest distance, first performing the loud sounds, then the normal sounds, then the soft sounds. He/she should then move on to the middle distance, and then to the near distance, performing all levels of sounds at each distance.

However, if the infant responds to all soft, normal and loud sounds at the furthest distance, there is no need to proceed with the middle or near distances. Infants and children with normal hearing will be able to hear all of the sounds at all of the distances.

Interpreting this test

- 1 If the infant responds to all soft, normal and loud sounds at the furthest distance, the child is assumed to have normal hearing.
- 2 If the infant or child responds to at least two out of three of the **soft** sounds at the far distance and to all levels of sound at near and middle distances,

then no further testing is required. This test should be considered as passed.

- 3 If the child only responds to one or none of the soft sounds at the far distance, and all sounds at the near and middle distances, further testing is required.
- 4 If the child does not respond to one or more of the sounds listed at near or middle distances, refer the child for further testing.

Note: if the infant is under 6 months of age

Many babies younger than six months of age with normal hearing may not respond to soft sounds but will startle to loud sounds.

3–12 years of age: questionnaire on listening difficulties

A parent or caregiver can be asked to fill in a questionnaire about the child's listening difficulties, which requires them to recall the child's behaviour in various listening situations.

The questions in Table 2 have been adapted, abbreviated and simplified from Anderson & Smaldino's *Children's Home Inventory of Listening difficulties*.²

If the answer is 'No' to two or more of these questions, then the child should be referred for further testing.

Other ways of using this questionnaire:

- Each situation can be tried at home by the parent as a listening activity, with a view to filling in the questionnaire.
- When the child is old enough, he/she can also be asked to evaluate his/her own listening difficulties. For this, you will have to modify the questions slightly. For example, question 3 would become: 'When you are in your room playing quietly and your mother or father walks into the room to tell you something, how difficult is it for you to hear and understand what was said if your mother or father does not get your attention before talking to you?'

¹ K Anderson (2002). Early Listening Function (ELF). <http://home.earthlink.net/~karenlanderson/ELF.html>

² K Anderson & J Smaldino (2000). Children's Home Inventory of Listening Difficulties (CHILD). <http://home.earthlink.net/~karenlanderson/child.html>

TABLE 2 QUESTIONS ON LISTENING DIFFICULTIES**

DOES THE CHILD USUALLY REACT WHEN:	YES or generally yes	NO or generally no
1 While in a quiet place, you sit next to the child and talk in a normal voice (without the child seeing your face) about something in front of you, using familiar words		
2 The family is gathered together sitting in a circle. While sitting across from the child, you ask some questions about a family topic or event		
3 The child is in a room playing quietly. You walk into the room and tell or ask the child something (without calling the child or getting his/her attention first)		
4 The child is playing indoors with another child, and the other child asks him/her to do something		
5 You call the child's name from another room when he/she is not able to see you		
6 When it is time for your child to get up, you use your voice to wake him/her <i>without</i> touching or shaking him/her		
7 While in a large room with the child, you speak to him/her from across the room		
8 You are travelling in a vehicle with your child in the seat behind you, and you say something or ask a question without turning round		
TOTAL		

**Adapted from Anderson & Smaldino (2000)²