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## **Knowing who may have a hearing loss: *A simple speech reception game for teachers and parents***

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Conductive hearing loss among Aboriginal children is endemic. Between twenty five and fifty percent of Aboriginal primary children are affected by hearing loss at any point in time. However, Aboriginal children's hearing loss is often not identified. Awareness of possible hearing loss among non Aboriginal children is usually prompted by children's behaviour, for example not following teacher's directions and failing to answer questions in the classroom. However, among Aboriginal children these behaviours may also result from cultural differences in appropriate behaviour (Harris 1980). Concerns about hearing loss among Aboriginal children is, therefore, less likely to emerge on the basis of their classroom behaviour (Price 1981, Howard 1991). This has meant that although conductive hearing loss is much more prevalent among Aboriginal children, it is less likely to be identified than is non-Aboriginal children's hearing loss. Even among non-Aboriginal children conductive hearing loss is often not identified (Moore and Best 1984)

Identification of Aboriginal children's hearing loss often only occurs if children are tested as part of a hearing screening program. However, in some areas of the Northern Territory at least, the likelihood of Aboriginal student's hearing being screened has actually diminished in recent years. There are a number of obstacles to regular hearing screening programs operating. Since the conductive hearing loss fluctuates, it is necessary to conduct regular testing. Screening programs require trained staff and equipment which must be regularly maintained. Nurses and Aboriginal health workers, who most often conduct screening programs, already have heavy demands placed on them. Health staff finding the time for hearing screening is often difficult, especially given that the middle ear disease which produces conductive hearing loss is a relatively 'minor' health problem in comparison with the range of other major Aboriginal health problems.

Nevertheless, identification of Aboriginal children's hearing loss is important because the major educational and social consequences associated with conductive hearing loss (Howard 1991). The identification of Aboriginal children's hearing loss is likely to continue to be problematic while it remains almost totally reliant on hearing screening being carried out by health professionals who often do not have the training, reliable equipment and most of all the time to conduct regular programs.

There is an obvious need for simple, reliable ways that those most concerned with the consequences of Aboriginal hearing loss (parents and teachers) can become aware of whether children may have a hearing loss.

### **Informal Speech Reception Testing**

One method to identify students with a possible hearing loss was suggested by Peter Strong, an adviser on deafness from New Zealand, who worked for a short time in the Northern Territory. He suggested an informal speech reception test which was adapted from a test sometimes used by audiologists (the Kendal Toy Test). The test involved determining if a subject can consistently respond to verbal instructions given in a quiet voice.

When this test was used to identify children who may have a hearing loss among Aboriginal students in two remote schools, it successfully identified all students with a hearing loss greater than 35dB in the better ear. While this informal test is very promising as a means to suggest students who are likely to have a significant hearing loss in both ears, it has the disadvantage that administration is individual as well as needing two adults to be involved in the testing.

This author sought to overcome these difficulties by further adapting the test. This resulted in a game called 'Blind Man's Simon Says'. The game involves a group of no more than five children standing at the front of the room with their eyes shut, while an adult standing at the back of the room asks them, in a quiet voice, to put their hands on different parts of their body (how to use this game are described in detail later). This test can be used regularly to quickly test whole class groups, and can be conducted by a single person.

This informal hearing test was trailed at a Darwin school where Aboriginal students hearing were formally tested. Students were initially involved in a hearing screening (1000 & 4000 Hz at 20dB). Any students who failed this screening were given a full hearing test using pure tone audiometry and tympanometry. Before screening tests were carried out students were videoed playing 'Blind Man's Simon Says'. A teacher who did not know any of the children tested then watched this video and on the basis of particular behaviour exhibited during the game (see criteria of this behaviour is included in the description of how to play "Blind Man's Simon Says") suggested which students may have a hearing loss. A comparison of students who were identified as possibly having a hearing loss by using this informal speech reception game and those who found to have a hearing loss after audiometric screening and full audiometric assessment is presented in Table 1.

**Table 1**  
**Comparison of Speech reception game**  
**with formal hearing assessment**

<b>Blind Man's Simon Says</b>	<b>Identified</b>	<b>Passed</b>
Hearing loss in both Ears identified by formal hearing assessment	<b>17</b>	<b>1</b>
Hearing loss in one ear identified by formal hearing assessment	<b>2</b>	<b>1</b>
Passed formal hearing assessment	<b>7*</b>	<b>21</b>

\* Note- of these seven, three had also failed the screening test.

These results indicate that the informal speech reception test identified nineteen of the twenty one students who were found by screening and full hearing tests to have a hearing loss in one or both ears. Of the two students not identified by the informal speech reception test, one was found to have a mild hearing loss at some frequencies in one ear and the other was found to have a mild hearing loss in both ears (Av. 29dB left ear, 27dB right ear). This second student's hearing loss appeared to have been 'masked' during speech reception by being in a group with students who had more severe levels of hearing loss than her.

These results suggest that this informal speech reception test is a simple and effective way for to identify which children may have a hearing loss.

One advantage of speech reception testing is that it enables communication difficulties of students with a hearing loss to be demonstrated in a way that is immediately meaningful. This is important since even when hearing loss has been identified it is sometimes ignored by parents and teachers, due to the implications for communication and education not being readily apparent. Hearing results are usually presented in the form of an audiogram, which does not present hearing loss in a particularly meaningful way, and described in terminology (slight, mild, moderate) which tends to minimize concerns about levels of hearing loss that may, in fact, have major communicative and educational importance- especially for Aboriginal students who are linguistically and culturally different.

This speech reception test may, then, be useful to 'demonstrate' hearing loss in a meaningful way to parents and teachers in conjunction with formal hearing tests. However, it is among children who do not have easy access to audiological services that this test is likely to be most useful. In the absence of regular or any screening it can provide a way for teachers and parents to be aware of which students are likely to have a hearing loss.

Parent and teacher awareness of hearing loss is crucial if the negative educational and social consequences of hearing loss are to be avoided. Communication problems resulting from unidentified hearing loss can drastically affect children's relationships with peers, parents and teachers. While means of identification of Aboriginal children's hearing loss is particularly urgent, because of the 'masking' effect of cultural differences, this test can also be useful among non-Aboriginal children. The simple speech reception test that is described on the following pages may assist to identify specific children with hearing loss and, hopefully, contribute towards greater understanding about the educational and social consequences of conductive hearing loss, about which we know so little.

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*More information and resources on conductive hearing loss can be found at [www.eartroubles.com](http://www.eartroubles.com)*

# How to play 'Blind Man's Simon Says'

Select four or five students at a time for this activity. Be sure to select a mix of students in each group, including some who you believe have good hearing. Firstly, explain the rules - these are that you will ask them to shut their eyes and then ask them to do some things, often in a very quiet voice. The students participating stand at the front of the classroom, while you stand at the back. Try to minimize the background noise in the classroom during the game; turn off air conditioners and fans, explain to students the importance of their silence while others are having their turn. It is best if you can take children to a separate quiet room to play the game to avoid those who have difficulties being teased.

## Step One

Start the game by saying one at a time all the instructions you are going to use in a loud, clear voice to ensure all the students can perform the directions when they are given in a loud voice.

Below is a list of instructions you can use.

*Put your hand on your nose*

*Put your hand on your hair*

*Put your hand on your cheek*

*Put your hand in the air*

*Put your hand on your ears*

*Put your hand on your chin*

*Put your hand on your knee*

Be sure to vary the order that these directions are given when playing this game regularly, so students can not predict what they are going to be asked to do next.

## Step Two

After all the students have demonstrated that they can follow these instructions when they are given in a loud voice, tell the students that you are now going to say them quietly.

Dropping your voice, but not whispering, give a direction. If you have another adult whose hearing is known to be OK, then they can help you get the right sound level by standing beside the students, watching the students, and letting you know by nodding, that your voice level is loud enough to be just heard. If you do not have an adult 'checker' then use the students participating to check your level. You do this by lowering your level till some students can follow the instructions but others have difficulty. If all the children have difficulty hearing you then you know you need to raise your voice level. The children in the group with normal hearing confirm for you that you can be heard. This is why it is crucial that the groups are not made up only of students whose hearing is suspect. You may need to practise speaking clearly and quietly without whispering and getting feedback from someone standing the same distance from you as the children you will be testing.

## Step Three

When you have said each instruction a few times quietly, repeat it in a loud voice again. Those requiring a louder level of voice to 'hear' are then obvious. This also ensures that even those with who have difficulties can still experience success during the game.

## Step Four

Continue to go through the different instructions until you can discern which students are having consistent difficulties. Some words, through sounding similar, are harder to distinguish between - for example air, ear and hair; cheek and chin; knee and nose. Use these more frequently to help confirm which children are having difficulties.

## What To Watch For

As well as watching for students (a) who have consistent difficulties following the directions you give in a quiet voice and (b) who make sudden corrections when you say the direction, finally, in a loud voice, also watch for students who:

- (c) follow the instructions after a short delay,
- (d) turn to peek at what others are doing,
- (e) consistently turn their head around to favour one ear,
- (f) make ambiguous movements - for example having their hands 'hover' around the sides of their head - or,
- (g) are reluctant to participate or are disruptive during the game.

Take note of students who you consistently observe responding in these ways. These are students for whom may have a hearing loss and it would be worthwhile to refer for hearing testing.

Students with a current hearing loss in both ears and even some students with a loss in one ear display obvious difficulties during this activity. Further, some other students,

without a current hearing loss but whom may have had past hearing loss which has left them with some language or listening difficulties in class, also demonstrate problems.

This simple activity is usually popular and can be used regularly with the whole class. It is an activity that can be useful to suggest students to refer for hearing tests as well as, importantly, to assist teachers to be aware of which students in their class are having difficulties with verbal directions of the kind that so much classroom instruction is based around.

Finally, I would like to urge a word of caution in what use you make of the information gained using this activity. It is important you include but do not exclude students from referral for hearing tests, on the basis of their responses during this game. That is, if you have other reasons to suspect that they may have hearing loss, for example, if student's behaviour or learning difficulties raise the possibility of hearing loss but they do not seem to have difficulties with 'Blind Man's Simon Says', you should still refer them to have their hearing assessed. This activity is not a formal hearing test and students with a hearing loss in one ear may not have difficulty with the activity.

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