

Assessed Mar 20, 2013 at 1:59pm by Matt Barker

Child's Name

Date of birth: Oct 26, 2001

Age at time of test: 11.4yrs

Assessed on: Mar 20, 2013 at 1:59pm

Summary

This assessment tests a variety of basic auditory skills. Research literature indicates that these skills are important for higher level abilities such as developing and understanding language, phonemic awareness, phonics, reading abilities, and other skills that are important for classroom learning such as hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 2 key areas and mild auditory weaknesses in 2 key areas of the assessment when compared to same-aged peers. These areas are thought to be important for higher level abilities and educational abilities. Further investigation is suggested should there be noted functional language or reading difficulties or impaired general learning abilities.

area	result
Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	mild weakness
Tonal-Pattern Memory	normal result
Rapid Tones	normal result
Dichotic Tones	significant weakness
Global Tone Score	mild weakness
Word Memory	normal result
Rapid Speech	normal result
Dichotic Words	significant weakness
Combined Dichotic Score (53.3)	normal result
Speech-in-Noise (without localization cues)	normal result
Speech-in-Noise (with localization cues)	normal result

This assessment report is designed to report on the measured auditory skills and how they compare to same-aged peers. This report is NOT intended as a stand-alone tool. This report does not confirm the presence (or otherwise) of, or diagnose, a (Central) auditory processing disorder [(C)APD]. Any diagnosis for (C)APD is to be done solely by a qualified audiologist after a diagnostic hearing assessment and/or any other assessment(s) deemed necessary for such a diagnosis.

The results for this assessment are normed using KOSS UR10 headphones and will not be accurate for all assessment areas if other brands or models are used.

Child's Name on Mar 20, 2013 at 1:59pm (page 2)

Hearing Screening and Lateralization

Training

This game assesses the ability to lateralize to either ear. It also screens for possible hearing loss. Lateralization is a basic auditory skill that is necessary for more advanced auditory abilities, such as localization and suppressing unwanted background noise.

area	result
Tones at 365Hz (low)	30dB
Tones at 999Hz (medium)	20dB
Tones at 2014Hz (high)	20dB
Tones at 4154Hz (very high)	20dB

This score indicates a normal result when compared to same-aged peers.

Tonal-Pattern Temporal Processing & Tonal-Pattern Memory

Whistle Code Breaking

This game assesses the ability to adequately distinguish and remember presentations of tones at different frequencies. Prior research suggests this ability underpins the understanding of sounds, and possibly phonemic awareness, which language and reading are in turn based.

area	result
Two Birds, Two Tones	80%
Two Birds, Three Tones	80%
Three Birds, Tonal Runs	60%
Combined Tonal-Pattern Score	75%
Tonal-Pattern Memory	4 in a row

This score indicates a mild weakness when compared to same-aged peers.

Rapid Tones

Speed Whistles

This game assesses the ability to distinguish rapidly presented pitch information (listen for quick tones and correctly identifying them in order). Understanding speech requires the listener to follow changes of intensity and pitch information over time. This skill could be thought of as 'auditory resolution'. Similar to a digital camera, the better the resolution, the clearer the image.

area	result
Rapid Tones Threshold	2ms

This score indicates a normal response when compared to same-aged peers.

Child's Name on Mar 20, 2013 at 1:59pm (page 3)

Dichotic Tones

Double Whistles

This game assesses the ability to hear a different tone in each ear at the same time and correctly identify which tone was presented in which ear. This requires the listener to pay attention to both ears in quick succession while identifying the target tone successfully. This skill is a test of the auditory pathway to each cortical hemisphere, the communication pathway between each hemisphere (auditory portion of the corpus collosum), and the right temporal lobe which is used to identify the correct pitch information. These pathways and skills are required for a number of other audiological abilities.

area	result
Dichotic Tone Score	Not able to perform

This score indicates a significant weakness when compared to same-aged peers.

Global Tone Score

This score is an overall score considering Tonal-Pattern Temporal Processing, Tonal-Pattern Memory, and Dichotic Tones scores. These scores are combined according to their importance for higher level skills as well as their level of difficulty.

area	result
Global Tone Score	77

This score indicates a mild weakness when compared to same-aged peers.

Word Memory

Code Breaking

This game assesses the ability to memorize and repeat sequences of words in the correct order. Linguistic memory is an important skill for following oral instructions and is also suggested by many researchers to be highly correlated to many higher level functional abilities like language understanding and reading abilities.

area	result
Words in Sequence	6 in a row

This result indicates age-appropriate auditory memory using speech.

Child's Name on Mar 20, 2013 at 1:59pm (page 4)

Rapid Speech

Speed Codes

This game assesses the ability to make sense of known words when presented rapidly (compressed in time). The words begin at 80% of normal duration and get more and more compressed until the listener can no longer identify the target word. This skill requires the listener to use decreasing amounts of acoustic information and still achieve auditory closure or 'decipher' the target word. Auditory closure is a skill that is useful when trying to listen in non-ideal listening conditions, such as reverberant locations, speakers who are speaking quickly, or when there is competing noise covering up the target speech.

area	result
Rapid Speech Average	10% of normal duration

This result indicates a normal auditory resolution (ability to understand speech clearly) and a normal ability to make sense of speech when presented in a less than ideal way (auditory closure) when compared to same-aged peers.

Dichotic Words

Double Codes

This game assesses the ability to hear two words coming separately into each ear at the same time. This skill tests the auditory pathway which connects both cortical hemispheres (auditory portion of the corpus collosum). The inter-hemispheric pathway is used for coordinating and amalgamating information which is processed by the right and left hemispheres of the brain.

area	result
Dichotic Words Left	50%
Dichotic Words Right	90%

This result indicates a significant weakness when compared to same-aged peers.

Combined Dichotic Score

This score is an indication of general dichotic skill. It combines scores for both 'Dichotic Tones' and 'Dichotic Words'.

area	result
Combined Dichotic Score	53.3

Child's Name on Mar 20, 2013 at 1:59pm (page 5)

Speech-in-Noise

Target Practice

This game assesses the ability to understand speech in the presence of background noise. The signal to noise ratio (measured in dB) decreases incrementally until failure to distinguish the speech. The score indicates the difference between the speech and the noise. We test this ability without any additional auditory cues that help a listener suppress unwanted signals AND then again with with these additional auditory cues. Testing the ability to identify a target word in noise WITHOUT localization cues is another auditory closure assessment, as this requires the listener to utilize what portions of a word were audible above the noise and still correctly identify the target word. Testing the ability to identify a target word in noise WITH additional auditory information known to be helpful for separating the speech from the noise will allow for comparison of the WITHOUT localization score and hence understand the listener's ability to utilize additional auditory information. A similar assessment that has been used historically in the auditory processing test battery is called masking level differences.

area	result
Without Localization Cues	-11dB
With Localization Cues	-2dB
Improvement With Localization Cues	9dB

This score indicates a normal result when compared to same-aged peers.

Child's Name on Mar 20, 2013 at 1:59pm (page 6)

Recommendations

Further investigation is warranted by a qualified audiologist if a diagnosis of (central) auditory processing disorder is required.

Tonal Processing Recommendations

If there are accompanying reading, language, or learning problems, we recommend that a phonemic awareness assessment be performed. Exercises designed specifically to strengthen tonal processing should also be considered. The Acoustic Pioneer auditory exercise game 'Insane Earplane', has been designed to incrementally improve tone-based auditory processing, which research indicates to be a skill that higher level skills, such as phonemic awareness and reading ability, are based. To create a block of treatment for your patient, please create a code for 'Insane Earplane' at acousticpioneer.com.

Dichotic Recommendations

In the educational setting, children with dichotic weaknesses, (either tone- or word-based) should be placed in a location in which auditory and visual distraction from the lesson are at a minimum. They will likely have difficulty focusing on a teacher's instruction if these distractions are present. Strengthening exercises can be utilized a number of ways in a therapy setting. It is recommended you consider the Acoustic Pioneer auditory exercise game 'Zoo Caper Sky Scraper' which has been designed to incrementally improve dichotic processing abilities. To create a block of treatment for your patient, please create a code for 'Zoo Caper Sky Scraper' at acousticpioneer.com.