Assessed Jan 16, 2018 at 9:47am by X using the Diagnostic Assessment

X

Date of birth: May 14, 2008
Age at time of test: 9.7yrs
Assessed on: Jan 16, 2018 at 9:47am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate a normal auditory processing ability in all key areas of the assessment when compared to same-aged peers.

Non-linguistic area	
Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	normal result
Dichotic double-sounds	normal result
Linguistic area	
Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+1.3 SD
Two Birds, Three Tones	100%	+1.7 SD
Three Birds, Tonal Runs	100%	+1.4 SD
Combined Tonal-Pattern Score	100%	+1.5 SD
Tonal-Pattern Memory	4 in a row	+2.0 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	25ms	+0.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	85%	+1.1 SD
Dichotic Double-Sounds Right	75%	-0.3 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	0.0 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	90%	+1.0 SD
Dichotic Double-Words Right	90%	+0.7 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-8dB	+1.3 SD
With Localization Cues	-11dB	-0.7 SD
Improvement With Localization Cues	-3dB	

Understanding speech in the presence of background noise does not seem to be a problem. However, the result indicates a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Assessed Aug 4, 2018 at 3:17pm by XXXXXXX using the Diagnostic Assessment

XXXXX

Date of birth: XXX XX, 2003
Age at time of test: 14.8yrs
Assessed on: Aug 4, 2018 at 3:17pm

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 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.

Non-linguistic area	
Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	mild weakness
Dichotic double-sounds	significant weakness
Linguistic area	
Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	normal result
Speech-in-Noise (with localization cues)	mild weakness

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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+0.6 SD
Two Birds, Three Tones	100%	+0.8 SD
Three Birds, Tonal Runs	100%	+1.0 SD
Combined Tonal-Pattern Score	100%	+0.8 SD
Tonal-Pattern Memory	5 in a row	+1.0 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	50ms	-1.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	55%	-3.4 SD
Dichotic Double-Sounds Right	85%	+0.1 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.5 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	70%	-3.2 SD
Dichotic Double-Words Right	80%	-4.0 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	0.0 SD
With Localization Cues	-13dB	-1.3 SD
Improvement With Localization Cues	-2dB	

Understanding speech in the presence of background noise does not seem to be a problem. However, the result indicates a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations

Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed Apr 12, 2018 at 10:04am by XXXXXX using the Diagnostic Assessment

XXXXX

Date of birth: XXX XX, 2007
Age at time of test: 10.7yrs
Assessed on: Apr 12, 2018 at 10:04am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate a significant auditory weaknesses in one key area and a mild auditory weakness in one key area 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.

Non-linguistic area

Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	normal result
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	mild weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+1.1 SD
Two Birds, Three Tones	100%	+1.3 SD
Three Birds, Tonal Runs	100%	+1.1 SD
Combined Tonal-Pattern Score	100%	+1.1 SD
Tonal-Pattern Memory	4 in a row	0.0 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	50ms	-0.5 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	70%	-0.8 SD
Dichotic Double-Sounds Right	75%	-0.5 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	0.0 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	60%	-2.9 SD
Dichotic Double-Words Right	95%	+1.0 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-16dB	-1.3 SD
With Localization Cues	-8dB	+0.3 SD
Improvement With Localization Cues	8dB	

This result indicates a mild weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

Speech in Noise Recommendations

Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefore, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.

Assessed Oct 12, 2017 at 9:27am by XXXXXX **using the Diagnostic Assessment**

XXXX XXXXX

Date of birth: XXX XX, 2009
Age at time of test: 8yrs
Assessed on: Oct 12, 2017 at 9:27am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 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.

Non-linguistic area	
Dichotic Sounds	significant weakness
Linguistic area	
Word Memory	significant weakness
Rapid Speech	mild weakness
Dichotic Words	significant weakness
Speech-in-Noise (without localization cues)	mild weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Non-linguistic Dichotic Stimuli

Animal Codes

This game assesses the ability to hear two non-linguistic stimuli 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	SD above/below mean
Dichotic Sounds Left	60%	-2.7 SD
Dichotic Sounds Right	50%	-3.4 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	2 in a row	-3.0 SD

This result indicates a significant weakness when compared to same-age peer data. The ability to recall word sequences is significantly lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	20% of normal duration	-1.7 SD

This result indicates a mild weakness in auditory resolution (ability to understand speech clearly) and/or the 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	SD above/below mean
Dichotic Words Left	Not able to perform	
Dichotic Words Right	Not able to perform	

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-16dB	-1.0 SD
With Localization Cues	-8dB	+0.7 SD
Improvement With Localization Cues	8dB	

This result indicates a mild weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

Word Speed Recommendations

Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

Speech in Noise Recommendations

Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefore, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.

Assessed Jun 13, 2016 at 6:30pm by Matt Barker using the Diagnostic Assessment

test tonal issue

Date of birth: Jan 20, 2007
Age at time of test: 9.4yrs
Assessed on: Jun 13, 2016 at 6:30pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate mild auditory weaknesses in 4 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.

Non-linguistic area	
Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	mild weakness
Dichotic double-sounds	normal result
Linguistic area	
Word Memory	mild weakness
Rapid Speech	normal result
Dichotic double-words	normal result
Speech-in-Noise (without localization cues)	mild weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 2014Hz (high)	50dB
Tones at 4154Hz (very high)	20dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	100%	+1.3 SD
Two Birds, Three Tones	60%	-2.3 SD
Three Birds, Tonal Runs	60%	-2.6 SD
Combined Tonal-Pattern Score	70%	-1.5 SD

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

Note to professional: The subject failed the first tonal round and was prompted to repeat the test at the conclusion of all games. The results above indicate the best score of the two rounds.

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	90%	+1.6 SD
Dichotic Double-Sounds Right	90%	+1.2 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	4 in a row	-1.0 SD

This result indicates a mild weakness when compared to same-age peer data. The ability to recall word sequences is lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	100%	+2.1 SD
Dichotic Double-Words Right	100%	+1.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-16dB	-1.3 SD
With Localization Cues	-8dB	+0.3 SD
Improvement With Localization Cues	8dB	

This result indicates a mild weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

Speech in Noise Recommendations

Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefor, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.

Assessed Mar 5, 2018 at 9:54am by XXXXX using the Diagnostic Assessment

XXXX

Date of birth: XXX X, 2009
Age at time of test: 8.7yrs
Assessed on: Mar 5, 2018 at 9:54am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 4 key areas and a mild auditory weakness in one key area 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.

Non-linguistic area

Hearing Screening and Lateralization	significant weakness
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	normal result
Dichotic double-sounds	significant weakness

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	mild weakness
Speech-in-Noise (without localization cues)	significant weakness
Speech-in-Noise (with localization cues)	significant weakness

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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	Not able to perform
Tones at 2014Hz (high)	20dB
Tones at 4154Hz (very high)	20dB

This result indicates a significant weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	100%	+1.7 SD
Two Birds, Three Tones	100%	+2.5 SD
Three Birds, Tonal Runs	80%	-0.1 SD
Combined Tonal-Pattern Score	95%	+1.6 SD
Tonal-Pattern Memory	5 in a row	+2.0 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	75ms	-0.5 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	45%	-2.9 SD
Dichotic Double-Sounds Right	80%	+0.6 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	6 in a row	+1.0 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+1.7 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	60%	-1.4 SD
Dichotic Double-Words Right	70%	-1.6 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-20dB	-2.3 SD
With Localization Cues	-23dB	-4.3 SD
Improvement With Localization Cues	-3dB	

This result indicates a significant weakness in understanding speech in the presence of background noise when compared to same-aged peers. There is also an indication of a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations
Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed Mar 16, 2018 at 1:21pm by XXXXX using the Diagnostic Assessment

XXXX

Date of birth: XXX X, 2003
Age at time of test: 14.4yrs
Assessed on: Mar 16, 2018 at 1:21pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 key areas and a mild auditory weakness in one key area 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.

Non-linguistic area

Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Rapid Tones	significant weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	mild weakness
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	normal result
Speech-in-Noise (with localization cues)	significant weakness

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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+0.6 SD
Two Birds, Three Tones	90%	-0.3 SD
Three Birds, Tonal Runs	80%	-1.2 SD
Combined Tonal-Pattern Score	90%	-0.3 SD

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

Note to professional: The subject failed the first tonal round and was prompted to repeat the test at the conclusion of all games. The results above indicate the best score of the two rounds.

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	SD above/below mean
Rapid Tones Threshold	100ms	-2.7 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	80%	-0.3 SD
Dichotic Double-Sounds Right	80%	-0.5 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	6 in a row	+0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-1.2 SD

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

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	100%	+2.8 SD
Dichotic Double-Words Right	85%	-2.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	0.0 SD
With Localization Cues	Could not perform	
Improvement With Localization Cues	Could not calculate	

Understanding speech in the presence of background noise does not seem to be a problem. However, the result indicates a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Recommendations

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.

Word Speed Recommendations
Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations
Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed Mar 26, 2018 at 9:54am by XXXXXXX using the Diagnostic Assessment

XXXX

Date of birth: XXX XX, 2007
Age at time of test: 10.3yrs
Assessed on: Mar 26, 2018 at 9:54am

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 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 3 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	mild weakness
Rapid Tones	significant weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	mild weakness
Speech-in-Noise (without localization cues)	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 2014Hz (high)	20dB
Tones at 4154Hz (very high)	20dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	80%	-0.9 SD
Two Birds, Three Tones	70%	-1.7 SD
Three Birds, Tonal Runs	80%	-0.9 SD
Combined Tonal-Pattern Score	75%	-1.4 SD

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

Note to professional: The subject failed the first tonal round and was prompted to repeat the test at the conclusion of all games. The results above indicate the best score of the two rounds.

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	SD above/below mean
Rapid Tones Threshold	500ms	-2.5 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	80%	+0.2 SD
Dichotic Double-Sounds Right	90%	+1.0 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	0.0 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	70%	-1.6 SD
Dichotic Double-Words Right	100%	+1.7 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-18dB	-2.0 SD
With Localization Cues	-6dB	+1.0 SD
Improvement With Localization Cues	12dB	

This result indicates a significant weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations
Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefore, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.

Assessed Oct 10, 2017 at 12:49pm by XXX XXXXXXX **using the Diagnostic Assessment**

XXXXXXXXXX

Date of birth: XXX XX**, 2011**
Age at time of test: 6.7yrs
Assessed on: Oct 10, 2017 at 12:49pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 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.

Non-linguistic area

Dichotic Sounds	significant weakness

Linguistic area

Word Memory	significant weakness
Rapid Speech	normal result
Dichotic Words	significant weakness
Speech-in-Noise (without localization cues)	mild weakness
Speech-in-Noise (with localization cues)	mild weakness

Non-linguistic Dichotic Stimuli
Animal Codes
This game assesses the ability to hear two non-linguistic stimuli 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	SD above/below mean
Dichotic Sounds Left	Not able to perform	
Dichotic Sounds Right	Not able to perform	

This result indicates a significant 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	SD above/below mean
Words in Sequence	Not able to perform	

This result indicates a significant weakness when compared to same-age peer data. The ability to recall word sequences is significantly lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	+0.1 SD

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	SD above/below mean
Dichotic Words Left	Not able to perform	
Dichotic Words Right	Not able to perform	

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-23dB	-1.8 SD
With Localization Cues	-18dB	-1.4 SD
Improvement With Localization Cues	5dB	

This result indicates a mild weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

Speech in Noise Recommendations

Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed Nov 29, 2017 at 7:50am by X using the Diagnostic Assessment

XXXXX

Date of birth: XXX X, 2006
Age at time of test: 11.5yrs
Assessed on: Nov 29, 2017 at 7:50am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 5 key areas and mild auditory weaknesses in 4 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	mild weakness
Tonal-Pattern Memory	significant weakness
Rapid Tones	significant weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	mild weakness
Rapid Speech	normal result
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	significant weakness
Speech-in-Noise (with localization cues)	significant weakness

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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 999Hz (medium)	20dB
Tones at 2014Hz (high)	50dB
Tones at 4154Hz (very high)	50dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	70%	-2.2 SD
Two Birds, Three Tones	70%	-2.1 SD
Three Birds, Tonal Runs	100%	+1.0 SD
Combined Tonal-Pattern Score	77.5%	-1.4 SD
Tonal-Pattern Memory	3 in a row	-2.0 SD

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	300ms	-2.7 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	75%	-0.6 SD
Dichotic Double-Sounds Right	75%	-0.9 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	4 in a row	-1.5 SD

This result indicates a mild weakness when compared to same-age peer data. The ability to recall word sequences is lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	40%	-6.4 SD
Dichotic Double-Words Right	70%	-3.3 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-18dB	-2.0 SD
With Localization Cues	-16dB	-2.3 SD
Improvement With Localization Cues	2dB	

This result indicates a significant weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations

Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed Jan 29, 2018 at 11:41am by XXXXXXX**using the Diagnostic Assessment**

XXXXXX-ASD

Date of birth: XXX XX, 2005
Age at time of test: 12.4yrs
Assessed on: Jan 29, 2018 at 11:41am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 key areas and mild auditory weaknesses in 5 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.

Non-linguistic area

Hearing Screening and Lateralization	significant weakness
Tonal-Pattern Temporal Processing	mild weakness
Tonal-Pattern Memory	mild weakness
Rapid Tones	normal result
Dichotic double-sounds	mild weakness

Linguistic area

Word Memory	mild weakness
Rapid Speech	significant weakness
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	normal result
Speech-in-Noise (with localization cues)	normal result

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	Not able to perform
Tones at 999Hz (medium)	Not able to perform
Tones at 2014Hz (high)	Not able to perform
Tones at 4154Hz (very high)	Not able to perform

This result indicates a significant weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	80%	-1.4 SD
Two Birds, Three Tones	70%	-2.2 SD
Three Birds, Tonal Runs	100%	+0.9 SD
Combined Tonal-Pattern Score	80%	-1.2 SD
Tonal-Pattern Memory	3 in a row	-1.5 SD

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	SD above/below mean
Rapid Tones Threshold	25ms	-0.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	65%	-1.9 SD
Dichotic Double-Sounds Right	75%	-0.9 SD

This result 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	SD above/below mean
Words in Sequence	4 in a row	-1.5 SD

This result indicates a mild weakness when compared to same-age peer data. The ability to recall word sequences is lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	20% of normal duration	-2.7 SD

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

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	45%	-6.7 SD
Dichotic Double-Words Right	65%	-5.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	+0.3 SD
With Localization Cues	-11dB	-0.7 SD
Improvement With Localization Cues	No improvement	

Understanding speech in the presence of background noise does not seem to be a problem. However, the result indicates a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Recommendations

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.

Word Speed Recommendations

Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed Jan 26, 2018 at 12:01pm by XXXXX XXXXX **using the Diagnostic Assessment**

XXXXXX

Date of birth: XXX XX, 2006
Age at time of test: 11.8yrs
Assessed on: Jan 26, 2018 at 12:01pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 4 key areas and mild auditory weaknesses in 4 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	mild weakness
Tonal-Pattern Memory	significant weakness
Rapid Tones	significant weakness
Dichotic double-sounds	significant weakness

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	normal result
Speech-in-Noise (with localization cues)	mild weakness

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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 999Hz (medium)	50dB
Tones at 2014Hz (high)	50dB
Tones at 4154Hz (very high)	50dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	80%	-1.2 SD
Two Birds, Three Tones	80%	-1.1 SD
Three Birds, Tonal Runs	80%	-1.0 SD
Combined Tonal-Pattern Score	80%	-1.1 SD
Tonal-Pattern Memory	Not able to perform	

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	Not able to perform	

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	50%	-3.8 SD
Dichotic Double-Sounds Right	100%	+2.3 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-0.8 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	40%	-6.4 SD
Dichotic Double-Words Right	70%	-3.3 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-13dB	-0.3 SD
With Localization Cues	-13dB	-1.3 SD
Improvement With Localization Cues	No improvement	

Understanding speech in the presence of background noise does not seem to be a problem. However, the result indicates a weakness using additional auditory cues that help listeners to 'tease out' speech from background noise.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations

Recommendations for weaknesses determining speech in noise include preferred seating in the classroom, possible FM system if available, and pre-teaching of lessons, all of which will help hearing in noisy environments. Strengthening excercises designed specifically for this problem area are also recommended.

Assessed May 11, 2018 at 11:48am by XXXXX using the Diagnostic Assessment

XXXX- post

Date of birth:XXX XX, 2006
Age at time of test: 12yrs
Assessed on: May 11, 2018 at 11:48am

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 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 3 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.

Non-linguistic area

Hearing Screening and Lateralization	significant weakness
Tonal-Pattern Temporal Processing	mild weakness
Tonal-Pattern Memory	mild weakness
Rapid Tones	mild weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 999Hz (medium)	50dB
Tones at 2014Hz (high)	Not able to perform
Tones at 4154Hz (very high)	50dB

This result indicates a significant weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	70%	-2.4 SD
Two Birds, Three Tones	70%	-2.2 SD
Three Birds, Tonal Runs	80%	-1.1 SD
Combined Tonal-Pattern Score	72.5%	-2.0 SD
Tonal-Pattern Memory	3 in a row	-1.5 SD

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	SD above/below mean
Rapid Tones Threshold	75ms	-1.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	85%	+0.6 SD
Dichotic Double-Sounds Right	85%	+0.4 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.6 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	85%	0.0 SD
Dichotic Double-Words Right	90%	-0.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-13dB	-0.3 SD
With Localization Cues	-11dB	-0.7 SD
Improvement With Localization Cues	2dB	

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

Recommendations

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.

Assessed Jan 30, 2018 at 2:15pm by XXXXX XXXXX using the Diagnostic Assessment

XXXXXXXX

Date of birth: XXX XX, 2005
Age at time of test: 12.1yrs
Assessed on: Jan 30, 2018 at 2:15pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 key areas and mild auditory weaknesses in 3 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	significant weakness
Rapid Tones	mild weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	mild weakness
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 999Hz (medium)	20dB
Tones at 2014Hz (high)	20dB
Tones at 4154Hz (very high)	50dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	70%	-2.4 SD
Two Birds, Three Tones	70%	-2.2 SD
Three Birds, Tonal Runs	40%	-5.1 SD
Combined Tonal-Pattern Score	62.5%	-3.0 SD

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	75ms	-1.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	95%	+1.9 SD
Dichotic Double-Sounds Right	80%	-0.3 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-1.1 SD

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

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	90%	+0.8 SD
Dichotic Double-Words Right	75%	-3.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-23dB	-3.7 SD
With Localization Cues	-8dB	+0.3 SD
Improvement With Localization Cues	15dB	

This result indicates a significant weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

Word Speed Recommendations

Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations

Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefore, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.

Assessed Apr 10, 2018 at 1:54pm by XXXXX XXXXX using the Diagnostic Assessment

XXXX post

Date of birth: XXX XX, 2005
Age at time of test: 12.3yrs
Assessed on: Apr 10, 2018 at 1:54pm

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 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 3 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	significant weakness
Tonal-Pattern Memory	mild weakness
Rapid Tones	normal result
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	mild weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	70%	-2.4 SD
Two Birds, Three Tones	70%	-2.2 SD
Three Birds, Tonal Runs	60%	-3.1 SD
Combined Tonal-Pattern Score	67.5%	-2.5 SD
Tonal-Pattern Memory	3 in a row	-1.5 SD

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	50ms	-0.8 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	80%	0.0 SD
Dichotic Double-Sounds Right	80%	-0.3 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.6 SD

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.

XXXXXXX post on Apr 10, 2018 at 1:54pm (Page 4)

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	100%	+2.5 SD
Dichotic Double-Words Right	85%	-1.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	+0.3 SD
With Localization Cues	-4dB	+1.7 SD
Improvement With Localization Cues	7dB	

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

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed Jan 25, 2018 at 10:48am by XXXXX XXXXXX using the Diagnostic Assessment

XXXXXX

Date of birth: XXX XX, 2005
Age at time of test: 12.8yrs
Assessed on: Jan 25, 2018 at 10:48am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate a significant auditory weaknesses in one key area and a mild auditory weakness in one key area 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.

Non-linguistic area

Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	mild weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	normal result
Dichotic double-words	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+0.6 SD
Two Birds, Three Tones	90%	-0.2 SD
Three Birds, Tonal Runs	100%	+0.9 SD
Combined Tonal-Pattern Score	95%	+0.3 SD
Tonal-Pattern Memory	6 in a row	+1.5 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	75ms	-1.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	85%	+0.6 SD
Dichotic Double-Sounds Right	80%	-0.3 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	7 in a row	+1.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.6 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	90%	+0.8 SD
Dichotic Double-Words Right	55%	-7.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	+0.3 SD
With Localization Cues	-8dB	+0.3 SD
Improvement With Localization Cues	3dB	

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

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed May 16, 2018 at 9:53am by XXXX XXXX **using the Diagnostic Assessment**

XXXXXX Recheck

Date of birth: XXX XX, 2005
Age at time of test: 13.1yrs
Assessed on: May 16, 2018 at 9:53am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate a significant auditory weaknesses in one key area and mild auditory weaknesses in 3 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.

Non-linguistic area	
Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	mild weakness
Dichotic double-sounds	mild weakness
Linguistic area	
Word Memory	normal result
Rapid Speech	mild weakness
Dichotic double-words	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	100%	+0.6 SD
Two Birds, Three Tones	90%	-0.2 SD
Three Birds, Tonal Runs	80%	-1.2 SD
Combined Tonal-Pattern Score	90%	-0.2 SD
Tonal-Pattern Memory	5 in a row	+0.5 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	50ms	-1.0 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	85%	+0.4 SD
Dichotic Double-Sounds Right	70%	-1.8 SD

This result 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	SD above/below mean
Words in Sequence	6 in a row	+0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-1.1 SD

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

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	95%	+2.0 SD
Dichotic Double-Words Right	85%	-2.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	0.0 SD
With Localization Cues	-6dB	+1.0 SD
Improvement With Localization Cues	5dB	

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

Recommendations

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.

Word Speed Recommendations
Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed Jan 26, 2018 at 12:32pm by XXXXXXX **using the Diagnostic Assessment**

XXXXXX

Date of birth: XXX X, 2005
Age at time of test: 12.1yrs
Assessed on: Jan 26, 2018 at 12:32pm

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	significant weakness
Rapid Tones	normal result
Dichotic double-sounds	mild weakness

Linguistic area

Word Memory	significant weakness
Rapid Speech	normal result
Dichotic double-words	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 999Hz (medium)	50dB
Tones at 2014Hz (high)	20dB
Tones at 4154Hz (very high)	50dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	100%	+0.6 SD
Two Birds, Three Tones	40%	-5.2 SD
Three Birds, Tonal Runs	Not able to perform	
Combined Tonal-Pattern Score	45%	-4.7 SD

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	25ms	-0.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	65%	-1.9 SD
Dichotic Double-Sounds Right	95%	+1.6 SD

This result 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	SD above/below mean
Words in Sequence	3 in a row	-2.5 SD

This result indicates a significant weakness when compared to same-age peer data. The ability to recall word sequences is significantly lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.6 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	80%	-0.8 SD
Dichotic Double-Words Right	80%	-2.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-11dB	+0.3 SD
With Localization Cues	-2dB	+2.3 SD
Improvement With Localization Cues	9dB	

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

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed May 11, 2018 at 11:57am by XXXXX using the Diagnostic Assessment

XXXX X-IE update

Date of birth: XXX X, 2005
Age at time of test: 12.4yrs
Assessed on: May 11, 2018 at 11:57am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate mild auditory weaknesses in 3 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.

Non-linguistic area

Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	mild weakness
Dichotic double-sounds	normal result

Linguistic area

Word Memory	normal result
Rapid Speech	mild weakness
Dichotic double-words	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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	80%	-1.4 SD
Two Birds, Three Tones	80%	-1.2 SD
Three Birds, Tonal Runs	100%	+0.9 SD
Combined Tonal-Pattern Score	85%	-0.7 SD
Tonal-Pattern Memory	5 in a row	+0.5 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	75ms	-1.3 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	100%	+2.5 SD
Dichotic Double-Sounds Right	100%	+2.3 SD

This score indicates a normal result 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	SD above/below mean
Words in Sequence	5 in a row	-0.5 SD

This result indicates age-appropriate auditory memory using speech.

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	SD above/below mean
Rapid Speech Average	15% of normal duration	-1.1 SD

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

XXXXXX-IE update on May 11, 2018 at 11:57am (Page 4)

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	100%	+2.5 SD
Dichotic Double-Words Right	100%	+1.2 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-13dB	-0.3 SD
With Localization Cues	-2dB	+2.3 SD
Improvement With Localization Cues	11dB	

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

Recommendations

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.

Word Speed Recommendations

Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

Assessed Feb 1, 2018 at 8:37am by XX using the Diagnostic Assessment

XXXX-SLD/LI

Date of birth: XXX X, 2005
Age at time of test: 12.5yrs
Assessed on: Feb 1, 2018 at 8:37am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 6 key areas and mild auditory weaknesses in 3 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.

Non-linguistic area

Hearing Screening and Lateralization	mild weakness
Tonal-Pattern Temporal Processing	significant weakness
Tonal-Pattern Memory	mild weakness
Rapid Tones	significant weakness
Dichotic double-sounds	significant weakness

Linguistic area

Word Memory	significant weakness
Rapid Speech	significant weakness
Dichotic double-words	mild weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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)	50dB
Tones at 2014Hz (high)	50dB
Tones at 4154Hz (very high)	20dB

This result indicates a mild weakness in lateralizing to one or both ears, or a possible hearing loss, or both.

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	SD above/below mean
Two Birds, Two Tones	80%	-1.4 SD
Two Birds, Three Tones	60%	-3.2 SD
Three Birds, Tonal Runs	60%	-3.1 SD
Combined Tonal-Pattern Score	62.5%	-3.0 SD
Tonal-Pattern Memory	3 in a row	-1.5 SD

This score indicates a significant 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	SD above/below mean
Rapid Tones Threshold	500ms	-2.8 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	55%	-3.1 SD
Dichotic Double-Sounds Right	75%	-0.9 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	3 in a row	-2.5 SD

This result indicates a significant weakness when compared to same-age peer data. The ability to recall word sequences is significantly lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	20% of normal duration	-2.7 SD

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

Dichotic Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	75%	-1.7 SD
Dichotic Double-Words Right	85%	-1.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-13dB	-0.3 SD
With Localization Cues	-6dB	+1.0 SD
Improvement With Localization Cues	7dB	

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

Recommendations

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.

Word Speed Recommendations

Recommendations for weaknesses in word speed include seating with good visualization of the teacher and/or presentation material, possible FM system if available, and/or pre-teaching of lessons, all of which will help those with poor auditory closure abilities. It may also be useful to use activities that will encourage the use of context clues to fill in missing parts of a sentence or story. Strengthening exercises designed specifically for improving auditory closure using a speech in noise paradigm are recommended.

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Assessed May 16, 2018 at 8:00am by XXXX using the Diagnostic Assessment

XXXXX - IE CHECK

Date of birth: XXX XX, 2005
Age at time of test: 12.8yrs
Assessed on: May 16, 2018 at 8:00am

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 are important for classroom learning such as, hearing speech amongst noise and auditory memory.

The scores indicate significant auditory weaknesses in 3 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.

Non-linguistic area

Hearing Screening and Lateralization	normal result
Tonal-Pattern Temporal Processing	normal result
Tonal-Pattern Memory	normal result
Rapid Tones	normal result
Dichotic double-sounds	significant weakness

Linguistic area

Word Memory	mild weakness
Rapid Speech	normal result
Dichotic double-words	significant weakness
Speech-in-Noise (without localization cues)	significant weakness
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. Audiologists, please use this report in conjunction with a diagnostic hearing evaluation, a complete case history, associated allied professional information, and/or any other assessment(s) deemed necessary for the diagnosis and/or management of auditory processing disorder.

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

Lateralization

Training

This game assesses the ability to lateralize to either ear at soft and, if required, louder volume levels. 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	SD above/below mean
Two Birds, Two Tones	80%	-1.4 SD
Two Birds, Three Tones	80%	-1.2 SD
Three Birds, Tonal Runs	100%	+0.9 SD
Combined Tonal-Pattern Score	85%	-0.7 SD
Tonal-Pattern Memory	4 in a row	-0.5 SD

This score indicates a normal response 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	SD above/below mean
Rapid Tones Threshold	50ms	-0.8 SD

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

Non-linguistic Double-Dichotic Stimuli

Double Animal Codes

This game assesses the ability to hear multiple sets of two non-linguistic stimuli 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	SD above/below mean
Dichotic Double-Sounds Left	55%	-3.1 SD
Dichotic Double-Sounds Right	85%	+0.4 SD

This result indicates a significant 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	SD above/below mean
Words in Sequence	4 in a row	-1.5 SD

This result indicates a mild weakness when compared to same-age peer data. The ability to recall word sequences is lower than same-age peers.

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	SD above/below mean
Rapid Speech Average	10% of normal duration	+0.6 SD

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 Double-Words

Double Codes

This game assesses the ability to hear multiple sets of 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	SD above/below mean
Dichotic Double-Words Left	50%	-5.8 SD
Dichotic Double-Words Right	50%	-8.8 SD

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

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 closer the score is to zero indicates a better result. This is measured WITHOUT any additional auditory cues that help a listener suppress unwanted signals, and then again WITH these additional auditory cues. Identifying a target word in noise WITHOUT localization cues requires the listener to utilize what portions of the word were audible above the noise, and still correctly identify that word. Testing WITH additional auditory information is helpful for separating the speech from the noise. It allows for comparison of the score WITHOUT localization, and hence understand the listener's ability to utilize additional auditory information.

area	result	SD above/below mean
Without Localization Cues	-20dB	-2.7 SD
With Localization Cues	-11dB	-0.7 SD
Improvement With Localization Cues	9dB	

This result indicates a significant weakness in understanding speech in the presence of background noise when compared to same-aged peers.

Recommendations

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.

It is recommended that the child starts with 'Zoo Caper Sky Scraper' and continues with that game until completion before starting 'Insane Earplane'.

Speech in Noise Recommendations

Although a weakness was detected for the ability to listen amongst noise WITHOUT localization cues, the result WITH localization cues are at an expected level compared to same aged peers. Real-world listening involves the use of localization cues, therefore, unless other factors are known to be concerning regarding the ability of the listener to follow conversation amongst noise, no further investigation or intervention should be required.