**Submission Template**

**Auditory Electrophysiology**

# **Descriptive Title of Case. Replace this heading with your title.**

# **Authors**

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ACKNOWLEDGEMENT: Mary Jane, Au.D., Cool Medical Externship Site, City, State

# **User Agreement**

The user agreement is within the Submission Guidelines ([www.AudCases.com](http://www.AudCases.com)) Type the initials of the authors below to electronically sign the user agreement, most importantly, that you have thoroughly checked that the case is completely de-identified:

# **Table of Content Items**

List the items for your table of content here. Do not indent. Use a separate line per item.

# **Educational Level**

Choose one educational level that most adequately describes your case and delete the others.

 Introductory

 Intermediate

 Advanced

# **Learning / Assessment Objectives**

Replace the list below with your own objectives. Use the format provided.

By completing this case, the student will be able to:

1. Identify abnormal interaural latency differences
2. Predict hearing thresholds from frequency-specific ABR data

# **Case History**

Initials, a \_\_ year old (gender if appropriate), . . .

* What question do you want to insert here? Delete if no question is to be used.
* If a question is given, please provide the answer to the question as it would appear in the Instructor Guide. Delete this bullet if no question is to be used.

# **Audiometric Data**

Include otoscopy if relevant.

Create a digital audiogram using this link. <http://www.audsim.com/audgenJS/> The submission guidelines document details when other formats can/should be used.

* What question do you want to insert here? Delete if no question is to be used.
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Use this table for speech testing results, inserting patient-specific results. If using alternative stimuli (e.g. QuickSIN) then use your preferred format. Change SRT to SAT if appropriate. If alternative speech testing is used (e.g. WIPI) change key.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PTA (dB HL)** | **SRT (dB HL)** | **WRS** | **WRS Intensity (dB HL)** |
| **Right Ear** |  |  |  |  |
| **Left Ear** |  |  |  |  |
|  |  |  |  |
| Spondee Technique | MLV | WRS Technique | Recorded |
|  |  | List and Number | NU-6 Right: 1A Left: 2A |
|  |  | Number of Items |  Right: 50 Left: 10 MD |

MLV = Monitored Live Voice NU-6 = Northwestern University List 6

CID W-22 = Central Institute of the Deaf, Word List 22.

PB-K = Phonetically Balanced – Kindergarten 10 MD = 10 Most Difficult

* What question do you want to insert here? Delete if no question is to be used.
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# **Immittance Results**

Omit if not appropriate for the case. Omit subsections that are not relevant.

## **Tympanometry**

226 Hz / Y tympanograms should be included in this section

* What question do you want to insert here? Delete if no question is to be used.
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## **Advanced Middle Ear Analysis**

If multiple types of middle ear analysis are included, please use this ordering

### **Multifrequency Tympanometry**

Provide traces. The preferred format is for B/G traces to be on the same printout with a separate Y trace.

Ensure that probe frequency is clearly noted.

* What question do you want to insert here? Delete if no question is to be used.
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### **Wideband Acoustic Immittance (WAI)**

Provide high-quality graphics

* What question do you want to insert here? Delete if no question is to be used.
* If a question is given, please provide the answer to the question as it would appear in the Instructor Guide. Delete this bullet if no question is to be used.

### **Middle Ear Absorption**

Provide high-quality graphics

* What question do you want to insert here? Delete if no question is to be used. Questions can be moved to the subheadings above, they need not appear after all of the middle ear data are provided.
* If a question is given, please provide the answer to the question as it would appear in the Instructor Guide. Delete this bullet if no question is to be used.

## **Acoustic Reflexes**

### **Thresholds**

Please put acoustic reflex results in the table below. Thresholds are assumed to be in dB HL. If in dB SPL then change the upper left-hand table notation AND note in text.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **(dB HL)****Probe Ear** | **Hz 🡪****Stimulated Ear (Mode)** | **500** | **1000** | **2000** | **4000** | **BBN** |
| Right | Right(Ipsi) |  |  |  |  |  |
| Right | Left(Contra) |  |  |  |  |  |
| Left | Left(Ipsi) |  |  |  |  |  |
| Left | Right(Contra) |  |  |  |  |  |

* What question do you want to insert here? Delete if no question is to be used.
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### **Acoustic Reflex Decay**

Insert high-quality reproductions of the test results.

* What question do you want to insert here? Delete if no question is to be used.
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# **Otoacoustic Emissions**

## **Transient-Evoked**

Insert high-quality reproductions of the test results.

Use of a tabular format, either as a way of presenting the results. Adjust table, adding and removing and relabeling frequencies as appropriate to the case.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Freq (Hz)** | **500** | **1000** | **2000** | **3000** | **4000** | **6000** |
| **Right Ear** | **OE Level** |  |  |  |  |  |  |
|  | **SNR** |  |  |  |  |  |  |
| **Left Ear** | **OE Level** |  |  |  |  |  |  |
|  | **SNR** |  |  |  |  |  |  |

* What question do you want to insert here? Delete if no question is to be used.
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## **Distortion-Product**

Insert high-quality reproductions of the test results.

Use of a tabular format, either as a way of presenting the results. Adjust table, adding and removing and relabeling frequencies as appropriate to the case.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | **Freq (Hz)** | **500** | **1000** | **2000** | **3000** | **4000** | **6000** |
| **Right Ear** | **OE Level** |  |  |  |  |  |  |
|  | **SNR** |  |  |  |  |  |  |
| **Left Ear** | **OE Level** |  |  |  |  |  |  |
|  | **SNR** |  |  |  |  |  |  |

* What question do you want to insert here? Delete if no question is to be used.
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# **Electrocochleography**

* What question do you want to insert here? Delete if no question is to be used.
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# **Neurodiagnostic ABR**

The following template can be used if appropriate to the case.

Click Intensity: 80 dB nHL, 21.7 clicks/second stimulus repetition rate

**I.** **Wave Peak Latencies Interpeak Latencies**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **I** | **III** | **V** | **I-III** | **III-V** | **I-V** |
| **Right Ear** |  |  |  |  |  |  |
| Left Ear |  |  |  |  |  |  |
| Mean \* | 1.54 | 3.70 | 5.60 | 2.20 | 1.84 | 4.04 |
| Range of Normal (ms) (+/- 2 SD)\* |  1.34-1.74 |  3.40-4.00 |  5.22-5.98 |  1.88-2.52 |  1.50-2.18 | 3.68-4.40 |
| Outer Limits for Cochlear\*\* |  |  |  | 2.55 | 2.35 | 4.60 |

1. **Interaural Latency Differences**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **I** | **III** | **V** | **I-III** | **III-V** | **I-V** |
| **Difference** |  |  |  |  |  |  |
| Range of Normal (ms) (+/- 2 SD)\* | .21 | .26 | .29 | .25 | .25 | .28 |
| Outer Limits for Cochlear\*\* | .65 | .59 | .52 | .41 | .37 | .46 |

**III. Latency Increase with Stimulus Repetition Rate Increase**

|  |  |  |  |
| --- | --- | --- | --- |
|  | Wave V Latency(at 71.1 cl/sec) | Latency Increase(with rate increase) | Significance |
| Right Ear |  |  |  |
| Left Ear |  |  |  |

**IV.**  **Amplitude Ratio of Waves I/V**

Right Ear: \_\_\_ Normal \_\_\_ Wave I larger than Wave V \_\_\_ Wave I more than 2x Wave V

Left Ear: \_\_\_ Normal \_\_\_ Wave I larger than Wave V \_\_\_ Wave I more than 2x Wave V

**V.**  **Morphology and Replicability**

**VI. Quality of Traces - Assessment of Control Run, Artifact Rejection**

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**VII. Additional Comments**

**\*** Schwartz et al., 1989

\*\* Hall & Mueller, 1997

* What question do you want to insert here? Delete if no question is to be used.
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# **ABR – Frequency Specific**

Ensure that test results include recording and stimulus descriptions. If thresholds are listed, please carefully indicate whether the results are or are not estimated hearing levels. Use the terms dB nHL and dB EHL.

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# **complexABR**

Ensure that your stimulus and recording characteristics are fully described. Reviewers will, at a minimum, look for information on stimulus, level, presentation mode (left, right, binaural), rate, transducer, polarity, electrode montage, transducer and shielding, filters, sweeps averaged and patient state (asleep, awake, tasked).

* What question do you want to insert here? Delete if no question is to be used.
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# **FFR**

As with cABR, ensure that your have fully described the stimulus and recording paradigms.

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# **Electrocochleography**

Ensure that stimulus and recording parameters are described, especially electrode montage.

* What question do you want to insert here? Delete if no question is to be used.
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# **Middle-Latency Response**

Ensure that stimulus and recording parameters are described.

* What question do you want to insert here? Delete if no question is to be used.
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# **Late-Latency Response**

Ensure that stimulus and recording parameters are described.

* What question do you want to insert here? Delete if no question is to be used.
* If a question is given, please provide the answer to the question as it would appear in the Instructor Guide. Delete this bullet if no question is to be used.

# **P-300**

Ensure that stimulus and recording parameters are described.

* What question do you want to insert here? Delete if no question is to be used.
* If a question is given, please provide the answer to the question as it would appear in the Instructor Guide. Delete this bullet if no question is to be used.

# **Other**

Rename the header to describe the type of test. You may insert the additional test(s) at the desired location in the case.

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# **Summary and Discussion**

Omit this category if not appropriate to the case. You may reorder this heading vs recommendations as fits your case.

* What question do you want to insert here? Delete if no question is to be used.
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# **Recommendations**

Omit this category if it is not appropriate to your case.

* What question do you want to insert here? Delete if no question is to be used.
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