**Submission Template**

**Tinnitus and Sound Sensitivity**

# **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). 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. Develop a tinnitus evaluation
2. Organize an appropriate intervention plan
3. Determine appropriate differential diagnosis (tinnitus, hyperacusis, and misophonia)

# **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.

# **Otoscopy**

* 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**

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.
* 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.

Use this table for speech testing results, inserting patient-specific results. If using alternative stimuli, then use your preferred format.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **PTA (dB HL)** | **SRT (dB HL)** | **WRS** | **WRS Intensity (dB HL)** |
| **Right Ear** | 80 | 80 | 44 | 100 |
| **Left Ear** | 10 | 15 | 100 | 50 |
|  |  |  |  | |
| Spondee Technique | MLV | WRS Technique | Recorded | |
|  |  | List and Number | NU-6 Right: 1A Left: 2B | |
|  |  | 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.
* 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.

# **Immittance Results**

Omit section or subsections if not appropriate for the case.

## **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.
* 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.

## **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.
* 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.

### **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 à**  **Stimulated Ear (Mode)** | **500** | **1000** | **2000** | **4000** | **BBN** |
| Right | Right  (Ipsi) | 85 | 105 | 110 | Absent | 95 |
| Right | Left  (Contra) | 80 | 100 | Absent | Absent | 90 |
| Left | Left  (Ipsi) | 90 | 105 | 110 | Absent | 100 |
| Left | Right  (Contra) | 95 | 110 | Absent | Absent | 95 |

* 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.

### **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.
* 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.

# **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.
* 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.

## **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.
* 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.

# **ABR**

If neurologic ABR testing is conducted, the use of this summary sheet is encouraged, if appropriate for 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.
* 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

# **Vestibular Assessment**

*Delete the section if not included in the case*

## **ENG/VNG**

Delete the category (ENG or VNG) that is not appropriate for this case

### G**aze / Spontaneous Nystagmus Testing**

* 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

### **Oculomotor Tests**

* 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

### **Saccades**

* 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

### **Smooth Pursuit**

* 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

### **Optokinetic**

* 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

### **High-Frequency Headshake**

* 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

## **Positional/positioning Tests**

### **Dix-Hallpike**

* 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

### **Roll test**

* 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

### **Positional – supine, head right/left/center**

Include neck torsion effects / McCabe maneuver

* 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

### **Positional – supine, body right/left/center**

* 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

## **Caloric Tests (air/water/ice)**

* 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

*If additional vestibular tests are utilized, please cut and paste from the Vestibular case studies template.*

Tinnitus / Hyperacusis Evaluation and Management

# **Tinnitus Questionnaire**

|  |  |
| --- | --- |
| Test Name | Score |
|  |  |

* 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.

# **Hyperacusis Questionnaire**

|  |  |
| --- | --- |
| Test Name | Score |
|  |  |

* 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.

# **Pitch Match**

|  |  |
| --- | --- |
|  | Hz, pure tone/NBN/white noise |
| Right ear |  |
| Left ear |  |

* 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.

# **Loudness Match**

|  |  |
| --- | --- |
|  | dB HL @ Hz, pure tone/NBN/white noise |
| Right ear |  |
| Left ear |  |

* 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.

# **Threshold NBN**

|  |  |
| --- | --- |
|  | dB HL @ Hz NBN |
| Right ear |  |
| Left ear |  |

* 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.

# **Threshold White Noise**

|  |  |
| --- | --- |
|  | dB HL |
| Right ear |  |
| Left ear |  |

* 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.

# **Minimum Masking Level**

Use the table below to record ipsilateral, contralateral and bilateral MMLs, as appropriate to the case.

|  |  |  |  |
| --- | --- | --- | --- |
| Stimulated Ear | Right ear dB HL | Left ear dB HL | Both ear dB HL |
| Right ear |  |  |  |
| Left ear |  |  |  |
| Both ears |  |  |  |

Note stimulus used for masking here

* 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.

# **Residual Inhibition**

|  |  |
| --- | --- |
| Stimulated ear | Response (total/partial. None, increase) |
| Right ear |  |
| Left ear |  |

* 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.

# **UCL**

If data are in dB SPL instead of dB HL, change the notation in the upper left of the table and make note of that fact in text here.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| (dB HL)  Ear | 500 Hz | 1 kHz | 2k Hz | 3k Hz | 4k Hz | 6k Hz | 8k Hz | @ Tinnitus Hz | Speech |
| Right |  |  |  |  |  |  |  |  |  |
| Left |  |  |  |  |  |  |  |  |  |

Please briefly describe the method for obtaining the UCL data.

* 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.

# **Management Strategies**

If the case includes treatment and its results, include this category. If the case is intended to have the student decide upon the management strategy, then omit this heading.

* 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.

# **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.
* 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.

# **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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