

# **SPEECH-LANGUAGE PATHOLOGY AND AUDIOLOGY AND HEARING AID DISPENSERS BOARD**

## **OCCUPATIONAL ANALYSIS OF THE AUDIOLOGIST PROFESSION**



**OFFICE OF PROFESSIONAL EXAMINATION SERVICES**



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## **OCCUPATIONAL ANALYSIS OF THE AUDIOLOGIST PROFESSION**

This report was prepared and written by the  
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California Department of Consumer Affairs

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## EXECUTIVE SUMMARY

The Speech-Language Pathology and Audiology and Hearing Aid Dispensers Board (Board) requested that the Department of Consumer Affairs, Office of Professional Examination Services (OPES), conduct an occupational analysis (OA) of audiology practice in California. The purpose of the OA is to define practice for California audiologists in terms of actual job tasks that new audiologists must be able to perform safely and competently at the time of licensure. The results of this OA provide a description of practice for the audiologist profession that can subsequently be used to review the national Praxis Audiology test. The Praxis Audiology test is developed by the American Speech-Language-Hearing Association (ASHA) and administered across the United States by the Educational Testing Service (ETS).

OPES test specialists began by conducting a literature review for the profession and researching profession-related sources (e.g., previous OA reports, industry publications). In January 2017, telephone interviews were conducted with audiologists working in various locations throughout California. The purpose of these interviews was to identify the tasks performed in audiology practice and to specify the knowledge required to perform those tasks in a safe and competent manner. Using the information gathered from the literature review and the interviews, OPES test specialists developed a preliminary list of tasks performed in audiology practice along with statements representing the knowledge needed to perform those tasks.

Subsequently, in February and March 2017, OPES convened two workshops to review and refine the preliminary lists of task and knowledge statements. The workshops were comprised of licensees, or subject matter experts (SMEs), with diverse backgrounds in the profession (e.g., practice location, work setting, years licensed, specialty area). These SMEs were also responsible for identifying changes and trends in audiology practice, determining demographic questions for the OA questionnaire, and performing a preliminary linkage of the task and knowledge statements to ensure that all tasks had a related knowledge and all knowledge statements had a related task. Additional task and knowledge statements were created as needed to complete the scope of the content areas of the description of practice.

Upon completion of the workshops, OPES developed a three-part questionnaire to be completed by audiologists statewide. Development of the questionnaire included a pilot study which was conducted with the group of licensees who had participated in the interviews and workshops. OPES used feedback from the pilot study participants to refine the final questionnaire, which was administered online in April 2017.

In the first part of the questionnaire, licensees were asked to provide demographic information related to their work settings and practice. In the second part of the questionnaire, the licensees were asked to rate specific job tasks in terms of frequency (i.e., how often they perform the task in their current job) and importance (i.e., how

important the task is to performance of their current job). In the third part of the questionnaire, licensees were asked to rate specific knowledge statements in terms of how important that knowledge is to performance of their current job.

In April 2017, OPES distributed the final questionnaire on behalf of the Board to the entire population (1,541) of California-licensed audiologists with addresses in California, requesting that they complete the OA questionnaire online.

Approximately 21.8% of the population of audiologists (337 respondents) accessed the web-based questionnaire. The final sample size included in the data analysis was 306 respondents, or 19.9%. This final response rate reflects one adjustment. Data from respondents who indicated that they were not currently licensed as an audiologist in California were removed from the sample. The demographic composition of the final respondent sample was determined to be representative of the audiologist population.

OPES test specialists then performed data analyses on the task and knowledge ratings obtained from the questionnaire respondents. The task frequency and importance ratings were combined to derive an overall criticality index for each task statement. The mean importance rating was used as the criticality index for each knowledge statement.

After the data was analyzed, OPES facilitated two additional workshops with diverse groups of SMEs in June and July 2017. The SMEs evaluated the criticality indices and determined whether any task or knowledge statements should be eliminated. The SMEs in these workshops also established the linkage between job tasks and knowledge statements, organized the task and knowledge statements into content areas and subareas, and defined those content areas. The licensees then evaluated and confirmed the content area weights of the examination content outline.

The examination content outline is structured into six content areas weighted by criticality relative to the other content areas. This outline provides a description of the scope of practice for audiologists, and it also identifies the job tasks and knowledge critical to safe and effective audiology practice in California at the time of licensure. Additionally, this examination content outline provides a basis for evaluating the degree to which the content of any examination under consideration measures content critical to audiology practice in California.



OVERVIEW OF THE CALIFORNIA AUDIOLOGY  
EXAMINATION CONTENT OUTLINE

<b>Content Area</b>	<b>Content Area Description</b>	<b>Percent Weight</b>
1. Patient Intake	This content area assesses the candidate's knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.	19
2. Diagnostic Testing	This content area assesses the candidate's knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.	23
3. Audiologic Results	This content area assesses the candidate's knowledge of test results for differential diagnoses and recommendations for treatment and management of hearing and balance impairments.	23
4. Hearing Aids and Assistive Devices	This content area assesses the candidate's knowledge of patient candidacy, selection, fitting, and verification of hearing instruments and assistive listening technologies, including troubleshooting and repair.	19
5. Implantable Devices	This content area assesses the candidate's knowledge of patient candidacy, selection, fitting, and verification of implantable devices and assistive listening technologies, including troubleshooting and repair.	5
6. Laws and Regulations	This content area assesses the candidate's knowledge of laws and regulations pertaining to patient privacy, safety, universal precautions, documentation, billing, and advertising.	11
<b>Total</b>		<b>100</b>

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## CHAPTER 1. INTRODUCTION

### PURPOSE OF THE OCCUPATIONAL ANALYSIS

The Speech-Language Pathology and Audiology and Hearing Aid Dispensers Board (Board) requested that the Department of Consumer Affairs, Office of Professional Examination Services (OPES), conduct an occupational analysis (OA) as part of the Board's comprehensive review of audiologist practice in California. The purpose of the OA is to identify critical job activities performed by California-licensed audiologists. The results of this OA provide a description of practice for the audiology profession that can then be used to review the Praxis Audiology test. The Praxis Audiology test is developed by the American Speech-Language-Hearing Association (ASHA) and administered across the United States by the Educational Testing Service (ETS).

### CONTENT VALIDATION STRATEGY

OPES used a content validation strategy to ensure that the OA reflected the actual tasks performed by audiologists in independent practice. OPES incorporated the technical expertise of California-licensed audiologists throughout the OA process to ensure the identified task and knowledge statements directly reflect requirements for performance in current practice.

### UTILIZATION OF SUBJECT MATTER EXPERTS

The Board selected California-licensed audiologists to participate as subject matter experts (SMEs) during various phases of the OA. These SMEs were selected from a broad range of practice settings, geographic locations, and experience backgrounds. The SMEs provided information regarding the different aspects of current audiology practice during the development phase of the OA. The SMEs also provided technical expertise during the two workshops that were convened to evaluate and refine the content of task and knowledge statements prior to the administration of the OA questionnaire. Following the administration of the questionnaire, OPES convened two additional groups of SMEs to review the results and finalize the examination content outline, which ultimately provides the basis of the description of practice.

## ADHERENCE TO LEGAL STANDARDS AND GUIDELINES

Licensing, certification, and registration programs in the State of California adhere strictly to federal and state laws and regulations, professional guidelines, and technical standards. For the purpose of the occupational analysis, the following laws and guidelines are authoritative:

- California Business and Professions Code section 139.
- Uniform Guidelines on Employee Selection Procedures (1978), Code of Federal Regulations, Title 29, Section 1607.
- California Fair Employment and Housing Act, Government Code section 12944.
- *Principles for the Validation and Use of Personnel Selection Procedures* (2003), Society for Industrial and Organizational Psychology (SIOP).
- *Standards for Educational and Psychological Testing* (2014), American Educational Research Association, American Psychological Association, and National Council on Measurement in Education.

For a licensure program to meet these standards, it must be solidly based upon the job activities required for practice.

## DESCRIPTION OF OCCUPATION

The audiology occupation is described as follows in section 2530.2 of the California Business and Professions Code:

(k) "The practice of audiology" means the application of principles, methods, and procedures of measurement, testing, appraisal, prediction, consultation, counseling, and instruction related to auditory, vestibular, and related functions and the modification of communicative disorders involving speech, language, auditory behavior, or other aberrant behavior resulting from auditory dysfunction; and the planning, directing, conducting, supervising, or participating in programs of identification of auditory disorders, hearing conservation, cerumen removal, aural habilitation, and rehabilitation, including hearing aid recommendation and evaluation procedures, including, but not limited to, specifying amplification requirements and evaluation of the results thereof, auditory training, and speech reading, and the selling of hearing aids.

(l) A "dispensing audiologist" is a person who is authorized to sell hearing aids pursuant to his or her audiology license.



## CHAPTER 2. OCCUPATIONAL ANALYSIS QUESTIONNAIRE

### SUBJECT MATTER EXPERT INTERVIEWS

The Board provided OPES with a list of California-licensed audiologists to contact for telephone interviews. During the semi-structured interviews, nine audiologists were asked to identify all the job activities they perform that are specific to the audiology profession. The licensees outlined major content areas of their practice and confirmed the job tasks performed in each content area. The audiologists were also asked to identify the knowledge necessary to perform each job task safely and competently.

### TASK AND KNOWLEDGE STATEMENTS

OPES staff integrated information gathered from literature reviews of profession-related sources (e.g., previous OA reports, articles, industry publications) and from interviews with California-licensed audiologist SMEs to develop a preliminary list of task and knowledge statements. The statements were then organized into major content areas of practice.

In February 2017, OPES facilitated a workshop with nine California-licensed audiologists from diverse backgrounds (e.g., years licensed, specialty, and practice location) to evaluate the task and knowledge statements for technical accuracy and comprehensiveness. Additional task and knowledge statements were created as needed to complete the scope of the content areas. The resulting list included a total of 116 audiology tasks and 203 knowledge statements.

In March 2017, OPES facilitated a second workshop with a new group of six SMEs. OPES presented the task and knowledge statements to the SMEs, and they assigned each statement to an appropriate content area and verified that the content areas were independent and nonoverlapping. In addition, these SMEs performed a preliminary linkage of the task and knowledge statements to ensure that every task had a related knowledge and every knowledge statement had a related task. The SMEs also verified proposed demographic questions for the OA questionnaire, including questions regarding scope of practice and practice setting.

Once the lists of task and knowledge statements and the demographic questions were verified, OPES used this information to develop an online questionnaire that was sent to a sample of California-licensed audiologists for completion and evaluation.

## QUESTIONNAIRE DEVELOPMENT

OPES test specialists developed an online OA questionnaire soliciting California-licensed audiologists' ratings of the job task and knowledge statements for analysis. The surveyed sample of audiologists were instructed to rate each job task in terms of how often they perform the task (Frequency) and in terms of how important the task is to the performance of their current job (Importance). In addition, they were instructed to rate each knowledge statement for how important the specific knowledge is to the performance of their current job (Importance). The questionnaire also included a demographic section for purposes of developing an accurate profile of the respondents. The questionnaire can be found in Appendix F.

## PILOT STUDY

Prior to developing the final questionnaire, OPES prepared and administered an online pilot questionnaire. The pilot questionnaire was emailed to a group of 31 SMEs who had participated in the interviews or the February or March 2017 workshops. Of the 31 SMEs, 26 reviewed the pilot questionnaire and offered their feedback regarding the technical accuracy of the task and knowledge statements, the estimated time for completion, online navigation, and ease of use of the questionnaire. OPES used this feedback to develop the final questionnaire.

## CHAPTER 3. RESPONSE RATE AND DEMOGRAPHICS

### SAMPLING STRATEGY AND RESPONSE RATE

The Board sent notification letters to 1,541 licensed audiologists with California addresses (out of a total population of 1,909 audiologists licensed in California) inviting them to complete the questionnaire online. The invitation letter can be found in Appendix D. The online format allowed for several enhancements to the questionnaire and data collection process. As part of the questionnaire development, configuration, and analysis process, various criteria were established to ensure the integrity of the data.

Of the licensed 1,541 audiologists in the population, 337 licensees (21.8%) responded by accessing the web-based questionnaire. The final sample size included in the data analysis was 306 respondents, or 19.9% of the population that was invited to complete the questionnaire. This response rate reflects one adjustment. Data from 31 respondents were excluded from analysis because these respondents indicated that they were not currently licensed and practicing as audiologists in California. The respondent sample is representative of the population of California-licensed audiologists based on the sample's demographic composition.

### DEMOGRAPHIC SUMMARY

As shown in Table 1, 24.6% of the respondents included in the analysis had been practicing as an audiologist for 5 years or less, 13.3% had been practicing for 6 to 10 years, 26.2% had been practicing for 11 to 20 years, 18.9% had been practicing for 21 to 29 years, and 16.9% had been practicing for 30 or more years.

Table 2 shows that 52.6% of the respondents worked between 31 and 40 hours per week and 27.8% worked 41 or more hours per week. Table 3 shows that 75.5% obtained a Doctor of Audiology degree (Au.D.). As shown in Table 4, 31.8% of the licensees worked primarily in private practice, with 25.2% working in hospitals. Table 5 shows that 83.8% of the respondents were providing clinical services.

When asked to indicate their practice specialty, 85% of the respondents indicated that diagnostic testing was their main focus, with 62.8% indicating dispensing (see Table 6). When asked to indicate other California state-issued licenses or certifications held, 76.7% reported that they were also licensed as a Dispensing Audiologist (see Table 7).

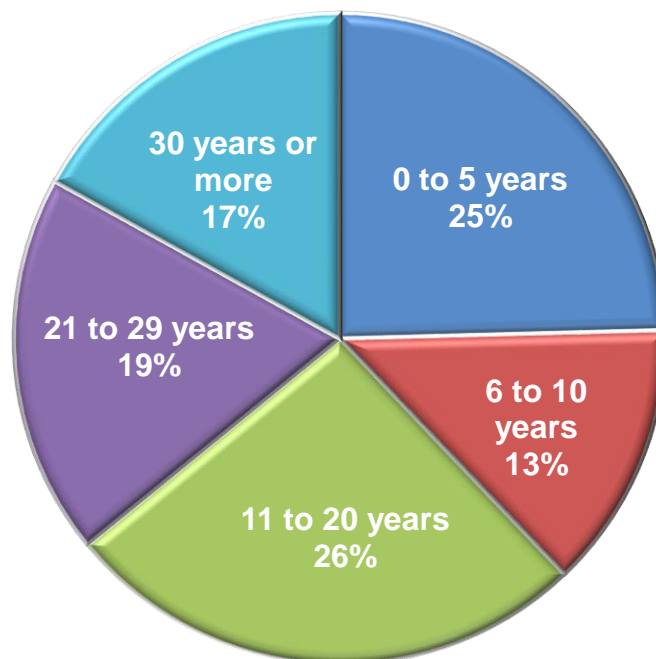
More detailed demographic information from respondents can be found in Tables 1 through 10 and Figures 1 through 8.

TABLE 1 – NUMBER OF YEARS LICENSED AS AN AUDIOLOGIST IN CALIFORNIA

YEARS	NUMBER (N)	PERCENT
0 to 5	74	24.6
6 to 10	40	13.3
11 to 20	79	26.2
21 to 29	57	18.9
30 or more	51	16.9
Total	301	100*

*\*Note: Percentages do not add to 100 due to rounding.*

FIGURE 1 – NUMBER OF YEARS LICENSED AS AN AUDIOLOGIST IN CALIFORNIA

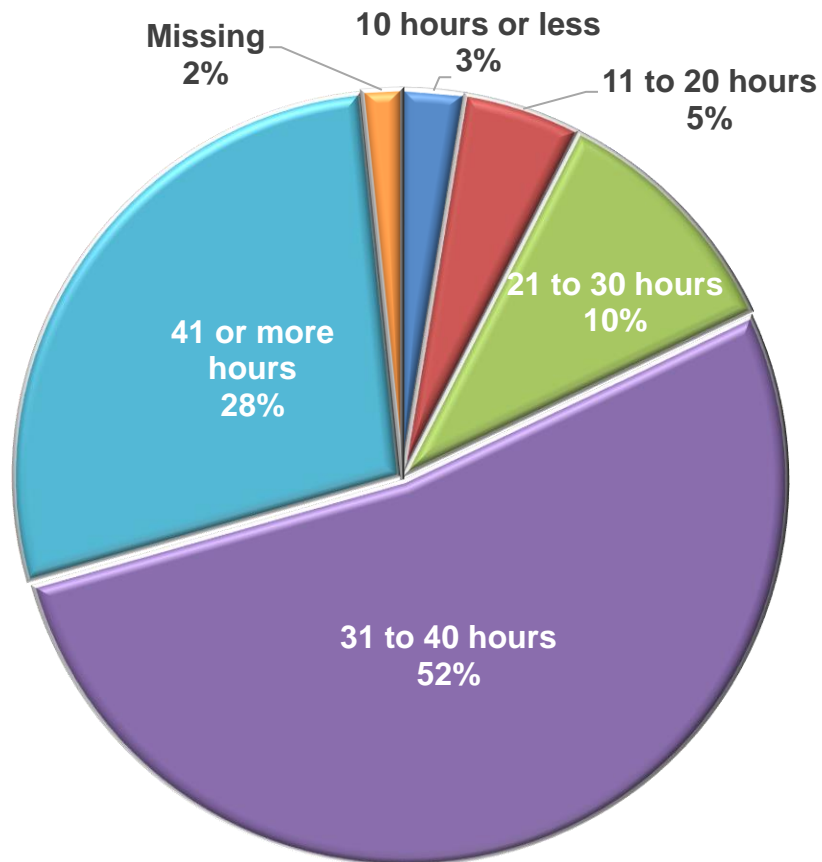


*Note: Percentages have been rounded.*

TABLE 2 – NUMBER OF HOURS WORKED PER WEEK AS AN AUDIOLOGIST

HOURS	NUMBER (N)	PERCENT
10 or less	8	2.6
11 to 20	15	4.9
21 to 30	32	10.5
31 to 40	161	52.6
41 or more	85	27.8
Missing	5	1.6
Total	306	100*

FIGURE 2 – NUMBER OF HOURS WORKED PER WEEK AS AN AUDIOLOGIST

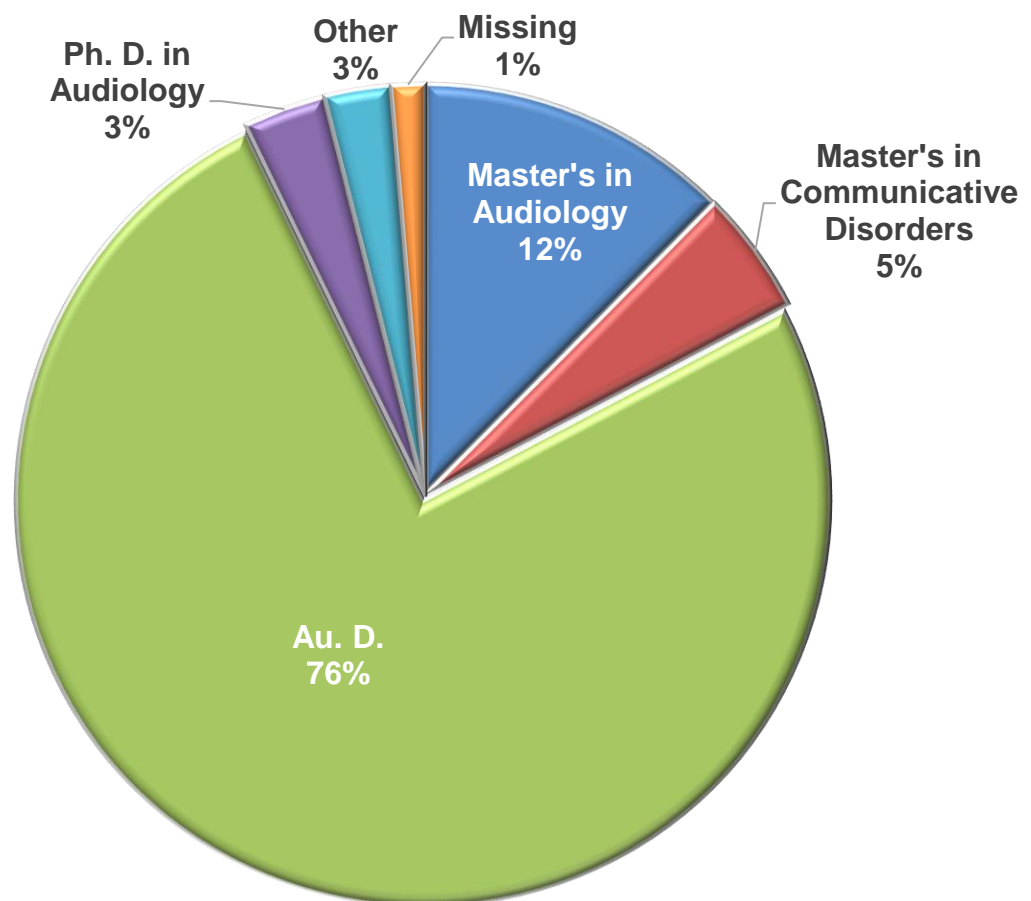


\*Note: Percentages have been rounded.

TABLE 3 – HIGHEST LEVEL OF EDUCATION

DEGREE	NUMBER (N)	PERCENT
Master's in Audiology	38	12.4
Master's in Communicative Disorders	15	4.9
Au.D.	231	75.5
Ph.D. in Audiology	10	3.3
Other	8	2.6
Missing	4	1.3
Total	306	100*

FIGURE 3 – HIGHEST LEVEL OF EDUCATION



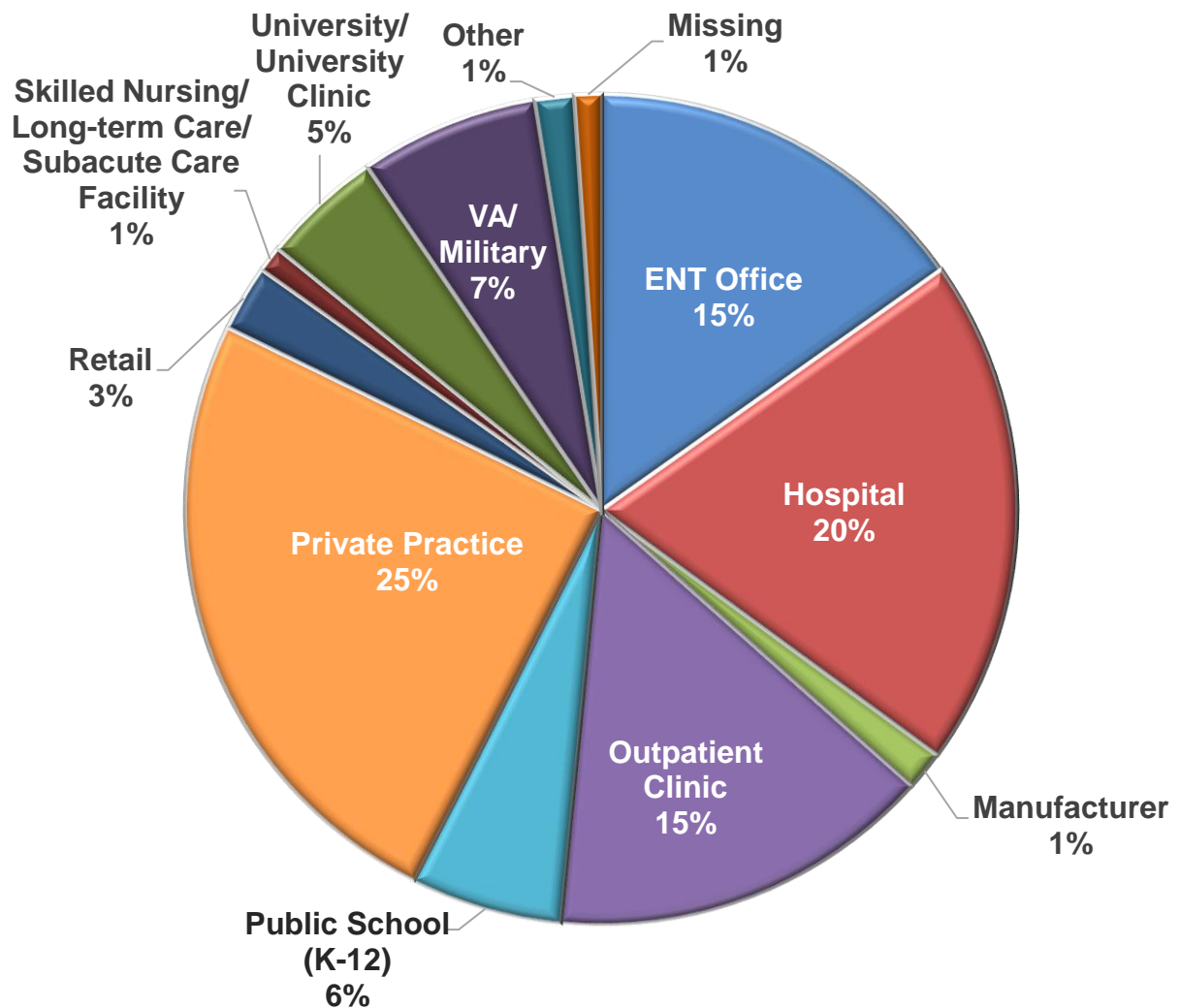
*\*Note: Percentages have been rounded.*

TABLE 4 – WORK SETTING

WORK SETTING	NUMBER (N)	PERCENT*
ENT Office	59	19.3
Hospital	77	25.2
Industrial (onsite)	1	0.3
Manufacturer	6	2.0
Outpatient Clinic	58	19.0
Public School (K-12)	23	7.5
Private Practice	96	31.8
Regional Center	1	0.3
Retail	10	3.3
Skilled Nursing or Long-term Care or Subacute Care Facility	4	1.3
Speech and Language Clinic	2	0.7
University or University Clinic	18	5.9
VA/Military	27	8.8
Web-based Treatment or Telepractice	2	0.7

*\*Note: Participants were asked to select all that apply. Percentages have been rounded.*

FIGURE 4 – WORK SETTING



*Note: Work settings with two or less N were removed from individual categories and combined into the Other category. This adjustment caused the difference in category percentage from Table 4.*

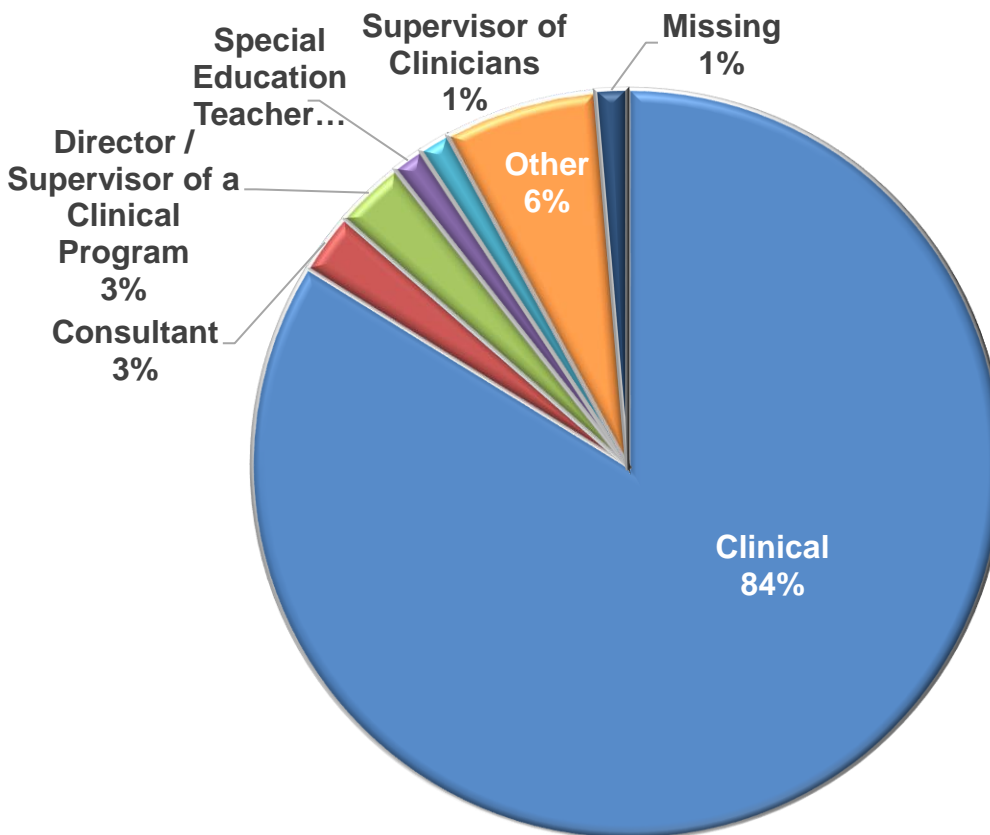


TABLE 5 – SERVICES PROVIDED

SERVICES	NUMBER (N)	PERCENT
Clinical	253	83.8
College/ University Professor / Instructor	1	0.3
Consultant	8	2.7
Director/Supervisor of a Clinical Program	9	3.0
Special Education Teacher	4	1.3
Supervisor of Clinicians	4	1.3
Other	19	6.2
Missing	4	1.3
Total	302	100*

\*Note: Percentages do not add to 100 due to rounding.

FIGURE 5 – SERVICES PROVIDED



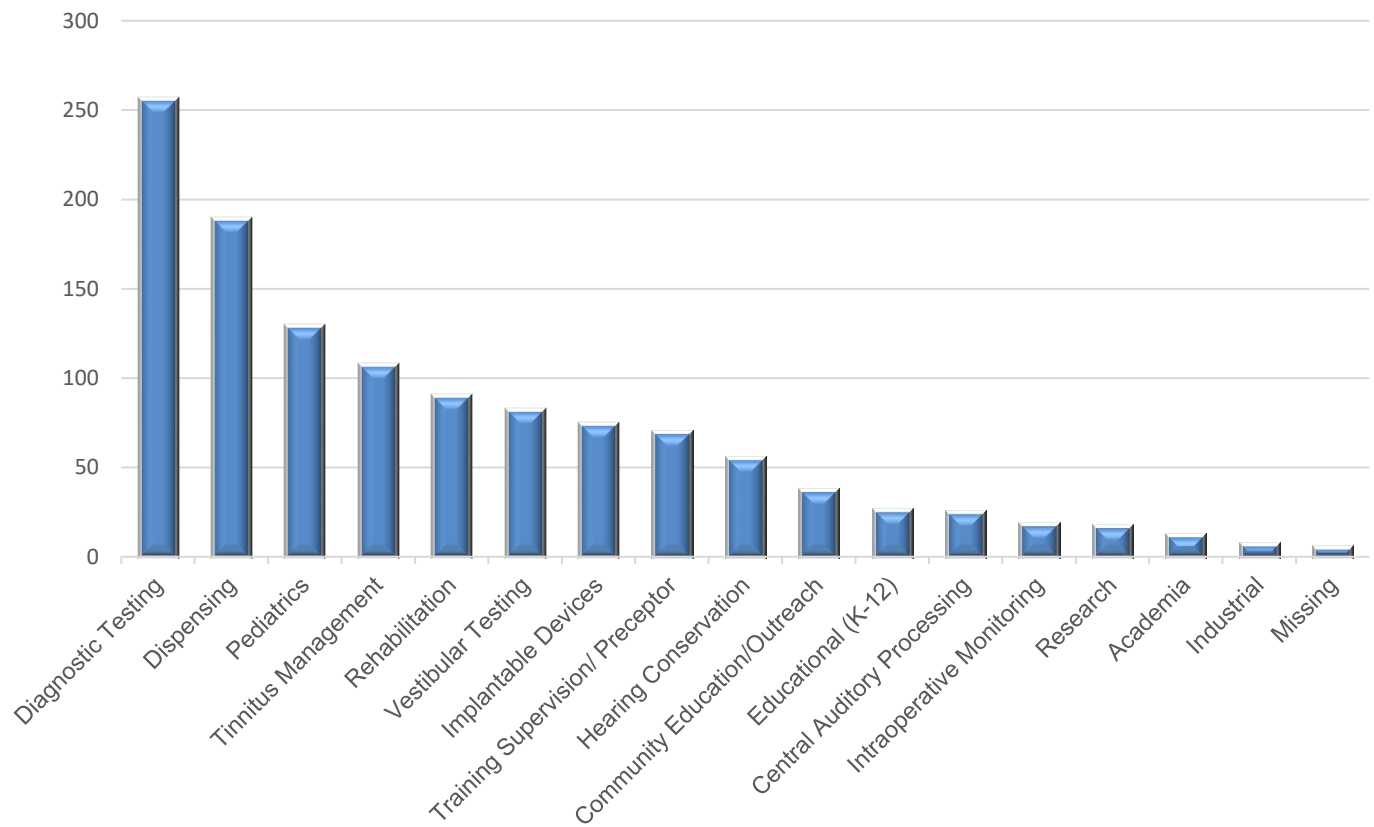
Note: Percentages have been rounded.

TABLE 6 – PRACTICE SPECIALTY

LOCATION	NUMBER (N)	PERCENT*
Academia	12	4.0
Central Auditory Processing	25	8.3
Community Education / Outreach	37	12.3
Diagnostic Testing	256	85.0
Dispensing	189	62.8
Educational (K-12)	26	8.6
Hearing Conservation	55	18.3
Implantable Devices	74	24.6
Industrial	7	2.3
Intraoperative Monitoring	18	6.0
Pediatrics	129	42.9
Rehabilitation	90	30.0
Research	17	5.7
Tinnitus Management	107	35.6
Training Supervision / Preceptor	70	23.3
Vestibular Testing	82	27.2
Missing	5	1.6

*\*Note: Participants were asked to select all that apply. Percentages have been rounded.*

FIGURE 6 – PRACTICE SPECIALTY – RANKED IN DESCENDING ORDER



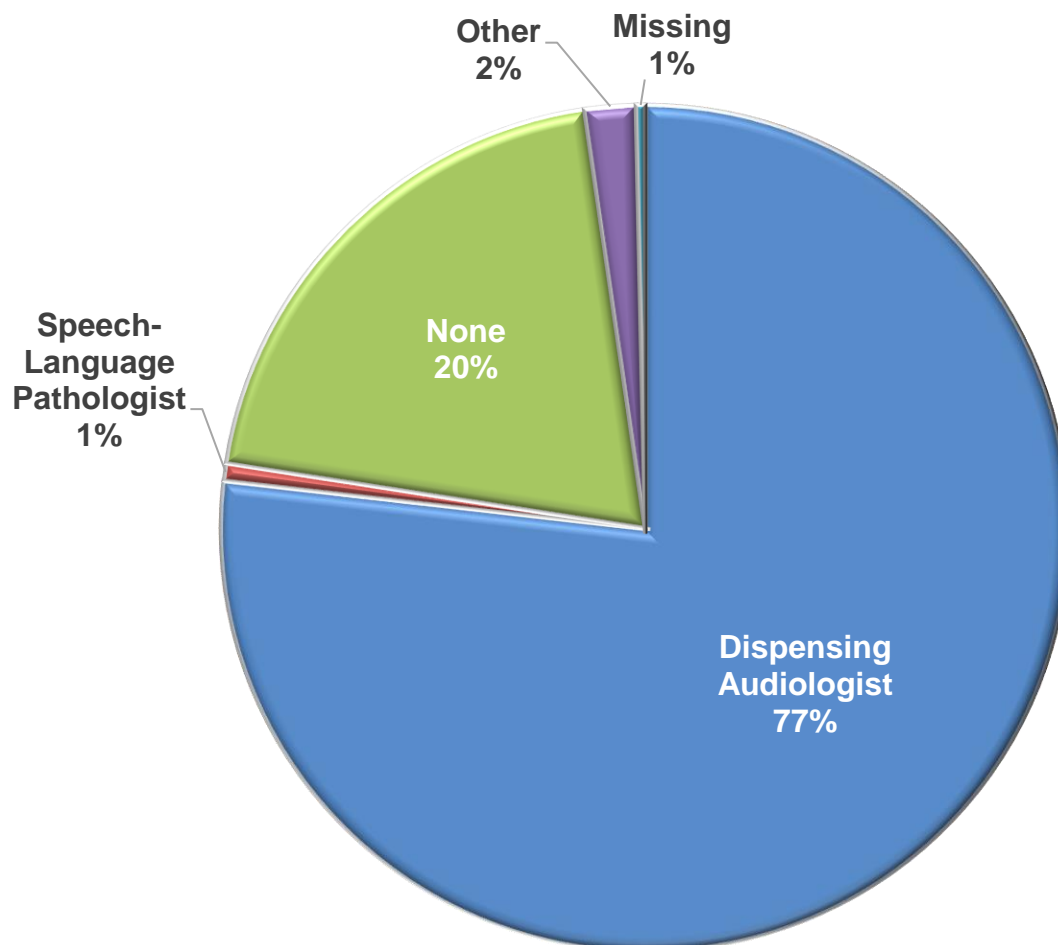
*Note: Participants were asked to select all that apply.*

TABLE 7 – ADDITIONAL CALIFORNIA LICENSES HELD

ADDITIONAL CA LICENSES HELD	NUMBER (N)	PERCENT
Dispensing Audiologist	235	76.7
Speech-Language Pathologist	2	1.0
None	62	20.0
Other	6	1.9
Missing	1	1.0
Total	306	100*

\*Note: Percentages do not add to 100 due to rounding.

FIGURE 7 – ADDITIONAL CALIFORNIA LICENSES HELD



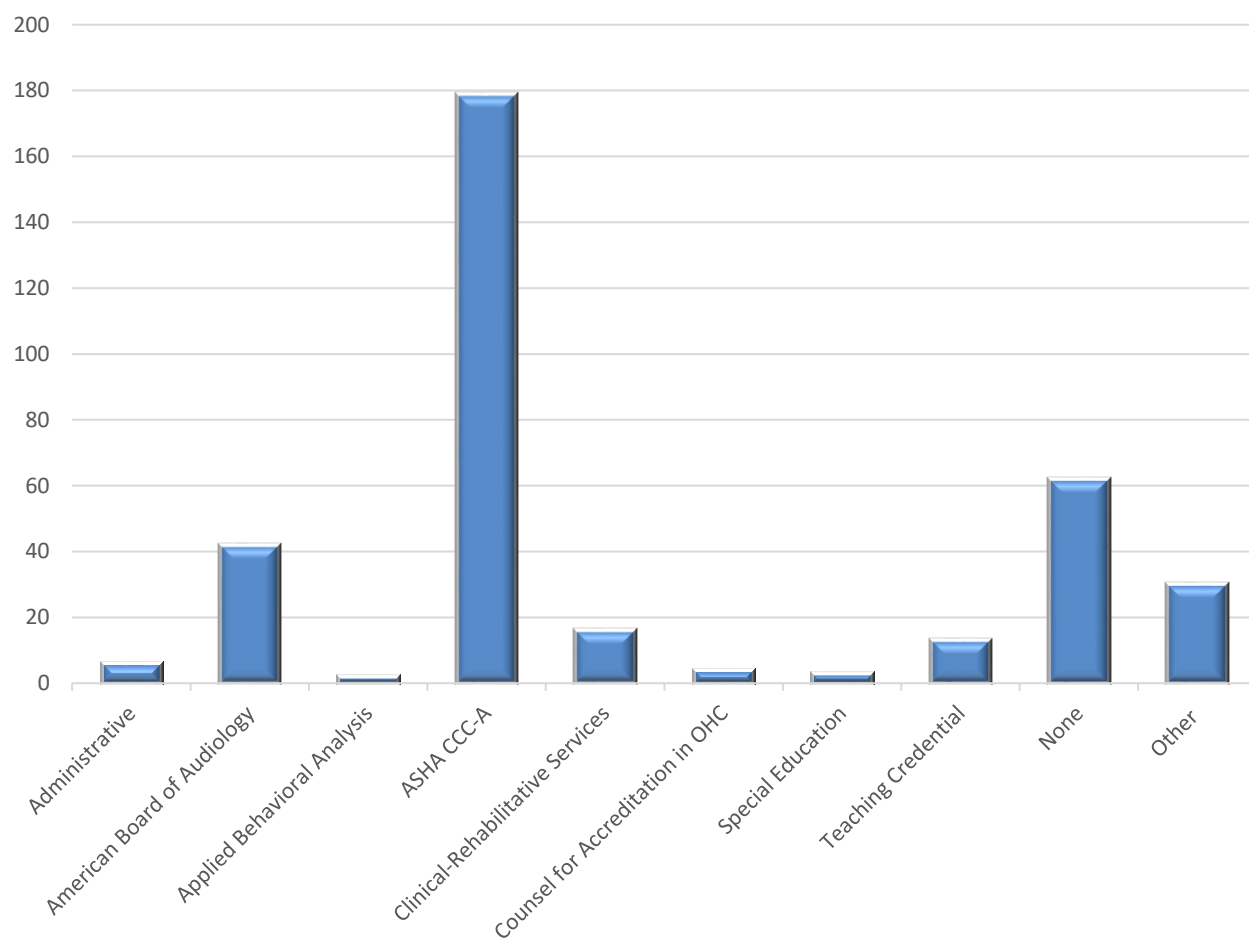
Note: Percentages have been rounded.

TABLE 8 – OTHER CERTIFICATIONS/CREDENTIALS HELD

CERTIFICATION / CREDENTIAL	NUMBER (N)	PERCENT*
Administrative	6	1.9
American Board of Audiology	42	13.7
Applied Behavioral Analysis	2	1.0
ASHA Certification of Clinical Competence in Audiology (CCC-A)	179	58.5
Clinical-Rehabilitative Services	16	5.2
Counsel for the Accreditation in Occupational Hearing Conservation (OHC)	4	1.3
Special Education	3	1.0
Teaching Credential	13	4.2
None	62	20.2
Other	30	9.9

*\*Note: Participants were asked to select all that apply. Percentages have been rounded.*

FIGURE 8 – OTHER CERTIFICATIONS/CREDENTIALS HELD



*Note: Participants were asked to select all that apply.*

TABLE 9 – AGE OF PATIENTS TREATED

AGE	NUMBER (N)	PERCENT*
Older Adults (71+ years of age)	253	83.8
Adults (23-70 years of age)	259	85.8
Young Adults (18-22 years of age)	267	88.4
Teenagers (15-17 years of age)	235	77.8
Young Teens (12-14 years of age)	232	76.8
Children (9-11 years of age)	232	76.8
Children (6-8 years of age)	226	74.8
Preschool (3-5 years of age)	198	65.6
Toddlers (1-2 years of age)	163	54.0
Infants (0-12 months of age)	145	48.0

*\*Note: Participants were asked to select all that apply. Percentages have been rounded.*

TABLE 10 – RESPONDENTS BY REGION\*

REGION NAME	NUMBER (N)	PERCENT
Los Angeles County and Vicinity	97	32
San Francisco Bay Area	73	24
San Diego County and Vicinity	55	18
Riverside and Vicinity	12	4
San Joaquin Valley	16	5
Sacramento Valley	18	6
Sierra Mountain Valley	8	3
South/Central Coast	14	5
Shasta/Cascade	0	0
North Coast	6	2
Missing	7	2
Total	306	100**

*\*NOTE: Appendix A shows a more detailed breakdown of the frequencies by region.*

*\*\*NOTE: Percentages do not add to 100 due to rounding.*

## CHAPTER 4. DATA ANALYSIS AND RESULTS

### RELIABILITY OF RATINGS

The job task and knowledge ratings obtained through the questionnaire were evaluated with a standard index of reliability called coefficient alpha ( $\alpha$ ) that ranges from 0 to 1. Coefficient alpha is an estimate of the internal consistency of the respondents' ratings of the job task and knowledge statements. A higher coefficient value indicates more consistency between respondent ratings. Coefficients were calculated for all respondent ratings.

Table 11 displays the reliability coefficients for the task statements by each content area. The overall ratings of task frequency and task importance across content areas were highly reliable (frequency  $\alpha = .969$ ; importance  $\alpha = .976$ ). Table 12 displays the reliability coefficients for the knowledge statement rating scale in each content area. The overall ratings of knowledge importance across content areas were highly reliable ( $\alpha = .988$ ). These results indicate that the responding audiologists rated the task and knowledge statements consistently throughout the questionnaire.

TABLE 11 – TASK SCALE RELIABILITY

CONTENT AREA	Number of Tasks	$\alpha$ Frequency	$\alpha$ Importance
1. Patient Intake	21	.909	.919
2. Diagnostic Testing	33	.901	.933
3. Audiologic Results	21	.880	.905
4. Hearing Aids and Assistive Devices	18	.967	.970
5. Implantable Devices	15	.974	.976
6. Laws and Regulations	8	.746	.755
Total	116	.969	.976



TABLE 12 – KNOWLEDGE SCALE RELIABILITY

CONTENT AREA	Number of Knowledge Statements	$\alpha$ Importance
1. Patient Intake	47	.975
2. Diagnostic Testing	56	.959
3. Audiologic Results	38	.952
4. Hearing Aids and Assistive Devices	25	.986
5. Implantable Devices	23	.981
6. Laws and Regulations	14	.873
Total	203	.988

### TASK CRITICALITY INDICES

In the June and July 2017 workshops, OPES asked the groups of SMEs to review the mean frequency, importance, and criticality index for each task, as well as the mean importance ratings for all knowledge statements. The purpose of these workshops was to identify the essential tasks and knowledge required for safe and effective audiology practice at the time of licensure. The SMEs in the June workshop added one knowledge statement to the list (K204), so no mean importance rating was collected for this knowledge statement from questionnaire participants.

In order to determine the criticality indices of the task statements, the mean frequency rating ( $F_i$ ) and the mean importance rating ( $I_i$ ) for each task were multiplied for each respondent, and the products were then averaged across respondents.

$$\text{Task criticality index} = \text{mean } [(F_i) \times (I_i)]$$

The task statements were then sorted in descending order of their criticality indices, and by content area. The task statements, their mean frequency and importance ratings, and their criticality indices are presented in Appendix B.

OPES test specialists instructed the SMEs to identify a cutoff value in order to determine if any of the tasks did not have a high enough criticality index to be retained. Based upon the SMEs' opinion of the relative importance of the tasks to audiology practice, the SMEs determined that no cutoff value should be established and that all task statements should be retained.

Although some task statements were rated relatively low (e.g., tasks pertaining to specific diagnostic tests and implantable devices), the SMEs agreed that these tasks should be retained in the examination outline.

## KNOWLEDGE IMPORTANCE RATINGS

In order to determine the importance of each knowledge, the mean importance (K Imp) rating for each knowledge statement was calculated. The knowledge statements were then sorted in descending order of their mean importance ratings and by content area and subarea content. The knowledge statements and their importance ratings are presented in Appendix C.

The SMEs in the June and July 2017 workshops who evaluated the task criticality indices also reviewed the knowledge statement mean importance ratings. After reviewing the mean importance ratings and considering their relative importance to audiology practice, the SMEs determined that no cutoff value should be established and that all knowledge statements should be retained.

## CHAPTER 5. AUDIOLOGY EXAMINATION CONTENT OUTLINE

### TASK–KNOWLEDGE LINKAGE

The SMEs who participated in the June and July 2017 workshops also reviewed the preliminary assignments of the task and knowledge statements to content areas and subareas, and they determined the appropriate linkage of specific knowledge statements to task statements. The content areas were developed so that they were nonoverlapping and described major areas of practice. In addition, the SMEs wrote descriptions for each content area.

### CONTENT AREAS AND WEIGHTS

The content area weights were calculated by dividing the sum of the task criticality indices for each content area by the overall sum of the task criticality indices for all tasks, as shown below.

$$\frac{\text{Sum of Criticality Indices for Tasks in Content Area}}{\text{Sum of Criticality Indices for All Tasks}} = \text{Percent Weight of Content Area}$$

The content subarea weights were calculated by dividing the sum of the task criticality indices for each subarea by the overall sum of the criticality indices for all tasks, as shown below.

$$\frac{\text{Sum of Criticality Indices for Tasks in Subarea}}{\text{Sum of Criticality Indices for All Tasks}} = \text{Percent Weight of Subarea}$$

A summary of the content area and subarea weights is presented in Table 13. The content outline for the audiologist profession is presented in Table 14.

TABLE 13 – CONTENT AREA AND SUBAREA WEIGHTS

<b>CONTENT AREA</b>	<b>Content Area Weights</b>	<b>Subarea Weights</b>
1. Patient Intake	19%	
A. Signs and Symptoms		6%
B. Exposure and Trauma		3%
C. Function		4%
D. Evaluation		6%
2. Diagnostic Testing	23%	
A. Preparation		3%
B. Behavioral		8%
C. Anatomic and Physiologic		12%
3. Audiologic Results	23%	
A. Interpretation		9%
B. Recommendations		9%
C. Treatment		5%
4. Hearing Aids and Assistive Devices	19%	
A. Selection and Preparation		5%
B. Programming and Verification		8%
C. Use, Troubleshooting, and Repair		6%
5. Implantable Devices	5%	
6. Laws and Regulations	11%	
Total	100%	

TABLE 14 – DESCRIPTION OF PRACTICE FOR THE AUDIOLOGIST PROFESSION

<b>1. Patient Intake (19%) – This content area assesses the candidate’s knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>A. Signs and Symptoms 6%</b>	<b>T</b>		<b>K</b>	
	<b>1</b>	Obtain patient information regarding reason for visit, current symptoms, concerns, and expectations	<b>1</b>	Knowledge of signs and symptoms of normal communication abilities.
			<b>2</b>	Knowledge of signs and symptoms of abnormal communication abilities.
			<b>3</b>	Knowledge of interview techniques and cultural factors that affect communication with patients from various cultural backgrounds.
	<b>2</b>	Obtain patient history related to ears, hearing, and communication.	<b>4</b>	Knowledge of signs and symptoms of hearing impairment.
			<b>5</b>	Knowledge of relationship between ear pathology, infections, and hearing loss.
			<b>6</b>	Knowledge of signs and symptoms of communication and processing disorders.
	<b>3</b>	Obtain patient history related to tinnitus.	<b>7</b>	Knowledge of causes and characteristics of tinnitus.
	<b>4</b>	Obtain patient history related to dizziness, balance, and vestibular dysfunction.	<b>8</b>	Knowledge of signs and symptoms of vestibular dysfunction.
			<b>9</b>	Knowledge of causes of dizziness and balance issues.
	<b>14</b>	Obtain family medical history related to ears, hearing, and communication.	<b>32</b>	Knowledge of genetic factors related to hearing loss and communication impairments.
	<b>15</b>	Obtain family medical history related to dizziness and balance.	<b>33</b>	Knowledge of genetic factors related to vestibular system and function.

1. Patient Intake (19%) continued – This content area assesses the candidate’s knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.				
Subarea	Job Task		Associated Knowledge	
<b>B. Exposure and Trauma 3%</b>	<b>T</b>		<b>K</b>	
	<b>5</b>	Obtain patient information regarding current and past noise exposure and incidents of otologic/head and acoustic trauma.	<b>10</b>	Knowledge of relationship between noise exposure and hearing.
			<b>11</b>	Knowledge of signs and symptoms of acoustic trauma.
			<b>12</b>	Knowledge of head trauma effects on the auditory and vestibular systems.
	<b>6</b>	Obtain patient history of chemical and environmental hazard exposure.	<b>13</b>	Knowledge of signs and symptoms of chemical and environmental hazard exposure.
			<b>14</b>	Knowledge of effects of chemical and environmental hazard exposure on hearing systems.
	<b>9</b>	Obtain patient information on current and past medications, vitamins, minerals, and herbal supplements.	<b>18</b>	Knowledge of pharmacological effects on hearing and balance.
			<b>19</b>	Knowledge of effects of vitamins, minerals, and herbal supplements on hearing and balance.
	<b>10</b>	Obtain patient history of tobacco, alcohol, and recreational substance use.	<b>20</b>	Knowledge of effects of tobacco on hearing and balance.
			<b>21</b>	Knowledge of effects of alcohol on hearing and balance.
			<b>22</b>	Knowledge of effects of recreational substance use on hearing and balance.

<b>1. Patient Intake (19%) continued – This content area assesses the candidate’s knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Function 4%</b>	<b>T</b>		<b>K</b>	
	<b>7</b>	Obtain patient history of hearing assistive technology use.	<b>15</b>	Knowledge of hearing assistive technology and applications.
	<b>8</b>	Obtain patient general medical and surgical history and current health status.	<b>16</b>	Knowledge of circulatory disorders and their effect on hearing and balance.
			<b>17</b>	Knowledge of medical conditions and their effect on hearing, balance, and communication.
	<b>11</b>	Obtain patient history of developmental function.	<b>23</b>	Knowledge of stages of human development of the auditory, vestibular, and central nervous systems.
			<b>24</b>	Knowledge of normal and abnormal human development related to hearing and balance systems.
			<b>25</b>	Knowledge of normal and abnormal development of speech and language.
			<b>26</b>	Knowledge of syndromes and disorders affecting auditory and communication development.
	<b>12</b>	Obtain patient history of educational function.	<b>27</b>	Knowledge of effects of hearing impairment and related communication impairments on educational access and achievement.
			<b>28</b>	Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychoeducational function.

<b>1. Patient Intake (19%) continued – This content area assesses the candidate’s knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Function 4%</b>	<b>T</b>		<b>K</b>	
	<b>13</b>	Obtain patient history of psychosocial function.	<b>29</b>	Knowledge of psychological effects of hearing and communication impairments.
			<b>30</b>	Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychosocial function.
			<b>31</b>	Knowledge of common psychological conditions that affect hearing.
	<b>16</b>	Identify patient life activities impacted by hearing/balance-related symptoms.	<b>34</b>	Knowledge of effects of hearing impairment, balance disorders, and related communication impairments on activities of daily life.
	<b>21</b>	Communicate with hearing impaired patients using methods other than spoken language.	<b>46</b>	Knowledge of American Sign Language.
			<b>47</b>	Knowledge of nonverbal methods of communication.



1. Patient Intake (19%) continued – This content area assesses the candidate’s knowledge of obtaining and evaluating patient history, including presenting symptoms, risk factors, comorbidities, hearing and balance performance, and psychosocial and technological accommodations.				
Subarea	Job Task		Associated Knowledge	
<b>D. Evaluation 6%</b>	<b>T</b>		<b>K</b>	
	<b>17</b>	Evaluate patient’s past and current medications for relationship to hearing, tinnitus, dizziness, and balance.	<b>35</b>	Knowledge of pharmacological effects on auditory, vestibular, and balance systems.
	<b>18</b>	Evaluate patient information for indications of deficits in auditory, vestibular, and communication functions.	<b>37</b>	Knowledge of etiologic factors affecting auditory, vestibular, and central nervous system disorders.
			<b>38</b>	Knowledge of pathophysiology of auditory, vestibular, and central nervous systems.
			<b>40</b>	Knowledge of indicators of normal and abnormal vestibular function.
	<b>19</b>	Evaluate patient information for indications of developmental, neurological, visual, physiological, psychosocial, and somatosensory concerns.	<b>36</b>	Knowledge of relationship between vision, hearing, and communication.
			<b>39</b>	Knowledge of indicators of normal and abnormal neurological and physiological function.
			<b>41</b>	Knowledge of indicators of normal and abnormal somatosensory function.
			<b>42</b>	Knowledge of indicators of normal and abnormal psychosocial function.
	<b>20</b>	Evaluate patient information to determine if referral is needed.	<b>43</b>	Knowledge of indicators of psychological conditions that require referral to other providers.
			<b>44</b>	Knowledge of indicators of medical conditions that require referral to other providers.
			<b>45</b>	Knowledge of available resources for referral.

<b>2. Diagnostic Testing (23%) – This content area assesses the candidate’s knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>A. Preparation 3%</b>	<b>T</b>		<b>K</b>	
	<b>22</b>	Select diagnostic tests to conduct based on patient history and symptoms.	<b>48</b>	Knowledge of standardized diagnostic tests and applications.
			<b>49</b>	Knowledge of diagnostic tests appropriate for patient based upon history and symptoms.
	<b>23</b>	Perform periodic equipment assessments and maintenance to ensure functionality in accordance with manufacturer specifications.	<b>50</b>	Knowledge of daily biological checks of equipment function.
			<b>51</b>	Knowledge of requirements for electroacoustic calibration of equipment.
	<b>26</b>	Perform cerumen management to allow for diagnostic testing.	<b>56</b>	Knowledge of cerumen removal procedures.
	<b>39</b>	Utilize pediatric and developmentally appropriate audiological test methods.	<b>76</b>	Knowledge of techniques to obtain conditioned responses to behavioral audiological testing.
			<b>77</b>	Knowledge of observable signs of reflexive behavioral responses to auditory stimuli.
			<b>78</b>	Knowledge of phonologic, morphologic, syntactic, and pragmatic aspects of verbal communication development.
			<b>79</b>	Knowledge of developmentally appropriate audiological-testing techniques.
	<b>53</b>	Conduct survey of environmental sound levels to assess need for hearing conservation.	<b>101</b>	Knowledge of methods to survey environmental sound levels.
	<b>54</b>	Evaluate noise levels of various listening environments to determine need for acoustic modifications for communication purposes.	<b>102</b>	Knowledge of laws and regulations related to hazardous environmental sound levels.
			<b>103</b>	Knowledge of acoustic modifications suitable in various environments.

<b>2. Diagnostic Testing (23%) continued – This content area assesses the candidate’s knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>B. Behavioral 8%</b>	<b>T</b>		<b>K</b>	
	<b>29</b>	Conduct pure-tone air conduction testing to determine hearing thresholds.	<b>63</b>	Knowledge of pure-tone air conduction testing techniques and procedures.
	<b>30</b>	Conduct pure-tone bone conduction test to determine type of hearing loss.	<b>64</b>	Knowledge of pure-tone bone conduction testing techniques and procedures.
	<b>31</b>	Assess patient’s speech reception and/or detection (awareness) threshold.	<b>65</b>	Knowledge of methods to assess speech reception and/or detection (awareness) thresholds.
	<b>32</b>	Conduct masked pure-tone and speech testing to determine ear-specific thresholds.	<b>66</b>	Knowledge of conditions that require masking for pure-tone and speech audiometry.
			<b>67</b>	Knowledge of methods to apply masking for pure-tone and speech audiometry.
	<b>33</b>	Evaluate patient’s word recognition at suprathreshold levels with or without background noise.	<b>68</b>	Knowledge of methods and materials to assess word recognition in quiet and/or noise.
	<b>34</b>	Determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.	<b>69</b>	Knowledge of methods to determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.
	<b>36</b>	Conduct tinnitus matching and residual inhibition tests to describe tinnitus and determine management.	<b>71</b>	Knowledge of methods and stimuli to perform tinnitus matching and residual inhibition testing.
	<b>37</b>	Conduct Stenger test to assess for pseudohypoacusis (malingering).	<b>72</b>	Knowledge of indicators of pseudohypoacusis (malingering).
			<b>73</b>	Knowledge of methods to conduct Stenger test.
	<b>38</b>	Conduct Weber and Rinne tests to verify type and laterality of hearing loss.	<b>74</b>	Knowledge of methods to conduct Weber and Rinne tests.
			<b>75</b>	Knowledge of indicators of laterality of hearing loss.
	<b>52</b>	Conduct test battery to assess central auditory processing function.	<b>100</b>	Knowledge of methods and materials to assess central auditory processing function.

<b>2. Diagnostic Testing (23%) continued – This content area assesses the candidate’s knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Anatomic and Physiologic 12%</b>	<b>T</b>		<b>K</b>	
	<b>24</b>	Examine external ear for abnormalities.	<b>52</b>	Knowledge of normal and abnormal anatomy of the external ear.
	<b>25</b>	Conduct otoscopy of external auditory canal and tympanic membrane to identify landmarks and abnormalities.	<b>53</b>	Knowledge of signs and symptoms of external ear obstruction.
			<b>54</b>	Knowledge of anatomy and physiology of the external auditory canal.
			<b>55</b>	Knowledge of normal and abnormal appearance of the tympanic membrane.
	<b>27</b>	Conduct tympanometry to determine ear canal volume and assess middle ear function and mobility of tympanic membrane.	<b>57</b>	Knowledge of function and use of pressure equalization (PE) tubes.
			<b>58</b>	Knowledge of methods to conduct tympanometry testing.
			<b>59</b>	Knowledge of methods to conduct Eustachian tube function testing.
	<b>28</b>	Conduct acoustic reflex testing to assess middle ear function and integrity of cranial nerve VII and VIII pathways.	<b>60</b>	Knowledge of acoustic reflex threshold and decay.
			<b>61</b>	Knowledge of acoustic reflex pathways.
			<b>62</b>	Knowledge of methods to conduct ipsilateral and contralateral acoustic reflex testing.
	<b>35</b>	Conduct otoacoustic emissions tests to assess cochlear outer hair cell function.	<b>70</b>	Knowledge of methods and stimuli to conduct otoacoustic emissions testing.

<b>2. Diagnostic Testing (23%) continued – This content area assesses the candidate’s knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Anatomic and Physiologic 12%</b>	<b>T</b>		<b>K</b>	
	<b>40</b>	Conduct auditory brainstem response (ABR) testing to identify auditory response thresholds, assess integrity of cranial nerve VIII, and lower brainstem auditory pathways.	<b>80</b>	Knowledge of patient preparation and setup for auditory brainstem response (ABR) tests.
			<b>81</b>	Knowledge of methods to test integrity of cranial nerve VIII and lower brainstem auditory pathways.
			<b>82</b>	Knowledge of temporal, spectral, and amplitude characteristics of sounds utilized to elicit auditory responses.
			<b>83</b>	Knowledge of effects of propagation and transmission on temporal, spectral, and amplitude characteristics of sound.
			<b>84</b>	Knowledge of methods to identify evoked auditory thresholds.
	<b>41</b>	Conduct auditory steady state response (ASSR) test to estimate auditory threshold.	<b>85</b>	Knowledge of methods to conduct auditory steady state response (ASSR) test.
	<b>42</b>	Conduct evoked middle and late potential response tests to assess central auditory nervous system function.	<b>86</b>	Knowledge of methods to assess central auditory nervous system function.
	<b>43</b>	Conduct electrocochleography (ECoG) to assess cochlear-evoked potential function.	<b>87</b>	Knowledge of methods to conduct electrocochleography (ECoG).
	<b>44</b>	Conduct electroneuronography (ENoG) to assess cranial nerve VII integrity.	<b>88</b>	Knowledge of procedures to monitor cranial nerve VII function.
			<b>89</b>	Knowledge of methods to conduct electroneuronography (ENoG).
	<b>45</b>	Perform neuro-intraoperative monitoring to assess neural function during surgical procedures.	<b>90</b>	Knowledge of methods to conduct neuro-intraoperative monitoring.
			<b>91</b>	Knowledge of operating room safety and infection control requirements.

<b>2. Diagnostic Testing (23%) continued – This content area assesses the candidate’s knowledge of hearing and balance, anatomy and physiology, objective and subjective test procedures, and verification of equipment function and calibration.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Anatomic and Physiologic 12%</b>	<b>T</b>		<b>K</b>	
	<b>46</b>	Conduct videonystagmography (VNG) or electronystagmography (ENG) to assess vestibular and oculomotor function.	<b>92</b>	Knowledge of patient preparation required for VNG and ENG testing.
			<b>93</b>	Knowledge of methods to conduct videonystagmography (VNG).
			<b>94</b>	Knowledge of methods to conduct electronystagmography (ENG).
	<b>47</b>	Conduct vestibular evoked myogenic potential (VEMP) test to assess vestibular function.	<b>95</b>	Knowledge of methods to conduct vestibular evoked myogenic potential (VEMP) test.
	<b>48</b>	Conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.	<b>96</b>	Knowledge of methods to conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.
	<b>49</b>	Conduct dynamic posturography to assess vestibular and balance function.	<b>97</b>	Knowledge of methods to conduct dynamic posturography.
	<b>50</b>	Conduct rotary chair tests to assess vestibular function.	<b>98</b>	Knowledge of methods to conduct rotary chair tests.
	<b>51</b>	Conduct tests to diagnose benign paroxysmal positional vertigo (BPPV).	<b>99</b>	Knowledge of tests to diagnose benign paroxysmal positional vertigo (BPPV).

<b>3. Audiologic Results (23%) – This content area assesses the candidate’s knowledge of test results for differential diagnoses and recommendations for treatment and management of hearing and balance impairments.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>A. Interpretation 9%</b>	<b>T</b>		<b>K</b>	
	<b>55</b>	Review test results for reliability and validity.	<b>104</b>	Knowledge of how to assess reliability and validity of diagnostic test results.
			<b>105</b>	Knowledge of factors that affect reliability and validity of test results.
	<b>56</b>	Interpret behavioral audiological test results.	<b>106</b>	Knowledge of interpretation of behavioral audiological test results.
			<b>107</b>	Knowledge of behavioral responses to auditory stimuli.
	<b>57</b>	Interpret objective audiological test results.	<b>108</b>	Knowledge of interpretation of objective audiological test results.
	<b>58</b>	Interpret vestibular test results.	<b>109</b>	Knowledge of interpretation of vestibular test results.
	<b>59</b>	Interpret auditory electrophysiological test results.	<b>110</b>	Knowledge of interpretation of auditory electrophysiological test results.
	<b>60</b>	Interpret central auditory processing test results.	<b>111</b>	Knowledge of normal and abnormal functioning of central auditory pathways.
			<b>112</b>	Knowledge of interpretation of central auditory processing test results.
	<b>61</b>	Evaluate test results to determine differential diagnosis.	<b>113</b>	Knowledge of factors differentiating type and degree of hearing loss.
			<b>114</b>	Knowledge of factors differentiating peripheral from central auditory disorders.
			<b>115</b>	Knowledge of factors differentiating peripheral from central vestibular disorders.

**3. Audiologic Results (23%) continued – This content area assesses the candidate’s knowledge of test results for differential diagnoses and recommendations for treatment and management of hearing and balance impairments.**

<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>A. Interpretation 9%</b>	<b>T</b>		<b>K</b>	
	<b>62</b>	Discuss auditory test results and implications with patient and authorized care providers.	<b>116</b>	Knowledge of counseling techniques to explain test results.
			<b>117</b>	Knowledge of relationship between background noise, hearing, and communication related to patient test results.
			<b>118</b>	Knowledge of effects of hearing and communication impairment on educational, vocational, social, and psychological functioning.
			<b>120</b>	Knowledge of implications of normal and abnormal auditory test results.
	<b>75</b>	Monitor hearing thresholds to determine significant threshold shifts for the purpose of hearing conservation.	<b>140</b>	Knowledge of methods for determining significant threshold shifts.
			<b>141</b>	Knowledge of laws and regulations regarding hearing conservation.
<b>B. Recommendations 9%</b>	<b>63</b>	Recommend management or treatment options to patient and authorized care providers.	<b>119</b>	Knowledge of counseling techniques to explain treatment options and recommendations.
			<b>121</b>	Knowledge of potential side effects of and contraindications of treatment options.
	<b>64</b>	Recommend methods for hearing conservation.	<b>122</b>	Knowledge of methods and techniques to conserve hearing.
	<b>65</b>	Recommend methods to compensate for, and/or (re)habilitate, vestibular function.	<b>123</b>	Knowledge of methods to (re)habilitate vestibular function.
	<b>66</b>	Refer patients to other healthcare providers for further testing, treatment, or management.	<b>124</b>	Knowledge of test results that require referral to other healthcare providers.
			<b>125</b>	Knowledge of healthcare resources available outside of audiologist practice area.



<b>3. Audiologic Results (23%) continued – This content area assesses the candidate’s knowledge of test results for differential diagnoses and recommendations for treatment and management of hearing and balance impairments.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>B. Recommendations 9%</b>	<b>T</b>		<b>K</b>	
	<b>67</b>	Counsel patients regarding aural (re)habilitation options.	<b>126</b>	Knowledge of strategies to address patient communication deficits.
			<b>127</b>	Knowledge of assistive listening devices used to treat different listening needs.
	<b>69</b>	Counsel patients regarding vestibular (re)habilitation options.	<b>132</b>	Knowledge of methods to (re)habilitate vestibular function.
	<b>72</b>	Counsel patients regarding tinnitus and hyperacusis management options.	<b>135</b>	Knowledge of tinnitus and hyperacusis management options.
	<b>74</b>	Counsel patients regarding resource options for support.	<b>138</b>	Knowledge of social programs and organizations for people with auditory, vestibular, communicative, and other related dysfunctions.
			<b>139</b>	Knowledge of third-party programs that may provide financial or charitable assistance to patients.
<b>C. Treatment 5%</b>	<b>68</b>	Provide patients with aural (re)habilitation treatment to improve communication function.	<b>128</b>	Knowledge of assistive listening devices (e.g., remote microphone technology, FM systems, etc.).
			<b>129</b>	Knowledge of methods to provide hearing rehabilitation.
			<b>130</b>	Knowledge of methods to provide hearing habilitation.
			<b>131</b>	Knowledge of methods to provide treatment for different communication deficiencies.
	<b>70</b>	Provide patients with vestibular (re)habilitation treatment to improve balance function.	<b>133</b>	Knowledge of methods to provide treatment for vestibular (re)habilitation.

**3. Audiologic Results (23%) continued – This content area assesses the candidate’s knowledge of test results for differential diagnoses and recommendations for treatment and management of hearing and balance impairments.**

<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Treatment 5%</b>	<b>T</b>		<b>K</b>	
	<b>71</b>	Provide vestibular treatments for benign paroxysmal positional vertigo (BPPV).	<b>134</b>	Knowledge of methods to provide treatment for benign paroxysmal positional vertigo (BPPV).
	<b>73</b>	Provide tinnitus and hyperacusis treatment.	<b>136</b>	Knowledge of methods to provide tinnitus and hyperacusis counseling.
			<b>137</b>	Knowledge of habituation and masking techniques for treatment of tinnitus and hyperacusis.

<b>4. Hearing Aids and Assistive Devices (19%) – This content area assesses the candidate’s knowledge of patient candidacy, selection, fitting, and verification of hearing instruments and assistive listening technologies, including troubleshooting and repair.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>A. Selection and Preparation 5%</b>	<b>T</b>		<b>K</b>	
	<b>76</b>	Conduct evaluation to determine patient candidacy for hearing aid and/or assistive devices.	<b>142</b>	Knowledge of criteria that determine patient candidacy for hearing aid and/or assistive device.
	<b>77</b>	Conduct evaluation to select hearing aid and/or assistive devices to address patient needs.	<b>143</b>	Knowledge of hearing aid and assistive device characteristics and compatibility with lifestyle and physical/cognitive abilities.
			<b>144</b>	Knowledge of assistive listening devices (FM systems, etc.) and how they interface with hearing aids.
	<b>78</b>	Take ear impressions for custom products.	<b>145</b>	Knowledge of ear impression materials and techniques.
			<b>146</b>	Knowledge of methods for taking ear impressions.
	<b>91</b>	Counsel patient regarding realistic expectations of hearing aid and/or assistive device.	<b>164</b>	Knowledge of realistic expectations of hearing aids and assistive devices.

4. Hearing Aids and Assistive Devices (19%) continued – This content area assesses the candidate's knowledge of patient candidacy, selection, fitting, and verification of hearing instruments and assistive listening technologies, including troubleshooting and repair.				
Subarea	Job Task		Associated Knowledge	
<b>B. Programming and Verification</b> 8%	<b>T</b>		<b>K</b>	
	<b>79</b>	Perform electroacoustic analysis to verify that hearing aid and/or assistive devices are functioning within manufacturer specifications.	<b>147</b>	Knowledge of methods to perform electroacoustic and manual quality check on hearing aids and assistive listening devices.
			<b>148</b>	Knowledge of ANSI standards to verify hearing aid performance.
	<b>80</b>	Measure sound levels using the test coupler to verify output of hearing aid and/or assistive devices.	<b>149</b>	Knowledge of methods to measure sound levels of a hearing aid using a test coupler.
	<b>81</b>	Measure real-ear-to-coupler-difference (RECD) to modify the hearing aid and/or assistive device programming.	<b>150</b>	Knowledge of methods to measure real-ear-to-coupler-difference (RECD).
			<b>151</b>	Knowledge of methods to apply RECD to adjust hearing aids and/or assistive devices.
	<b>82</b>	Measure sound levels at the tympanic membrane using probe-microphone real-ear measures to verify output of hearing aid and/or assistive devices.	<b>152</b>	Knowledge of method to measure sound levels at the tympanic membrane using probe-microphone measures.
	<b>84</b>	Modify hearing aid and/or assistive device settings using computer software.	<b>155</b>	Knowledge of techniques to modify settings on hearing aids and other assistive devices.
			<b>156</b>	Knowledge of computer software to modify settings of hearing aids and assistive devices.
	<b>85</b>	Conduct unaided versus aided soundfield tests to assess patient performance.	<b>157</b>	Knowledge of techniques to perform soundfield tests while patient is wearing a hearing aid or assistive device.
	<b>90</b>	Conduct validation measures (e.g., outcome questionnaire) to assess subjective patient outcomes with hearing aids and/or assistive devices.	<b>163</b>	Knowledge of methods and materials to conduct validation measures to assess subjective patient outcomes.

<b>4. Hearing Aids and Assistive Devices (19%) continued – This content area assesses the candidate's knowledge of patient candidacy, selection, fitting, and verification of hearing instruments and assistive listening technologies, including troubleshooting and repair.</b>				
<b>Subarea</b>	<b>Job Task</b>		<b>Associated Knowledge</b>	
<b>C. Use, Troubleshooting, and Repair 6%</b>	<b>T</b>		<b>K</b>	
	<b>83</b>	Perform visual and listening check of hearing aid and/or assistive devices.	<b>153</b>	Knowledge of techniques to perform visual checks of hearing aids and/or assistive listening devices.
			<b>154</b>	Knowledge of techniques to perform listening checks of hearing aids and/or assistive listening devices.
	<b>86</b>	Troubleshoot problems with hearing aid and/or assistive devices.	<b>158</b>	Knowledge of normal functioning of hearing aids and assistive devices.
			<b>159</b>	Knowledge of methods to troubleshoot problems with hearing aids and assistive devices.
	<b>87</b>	Provide repair services, options, and estimated cost for repair of hearing aid and/or assistive devices.	<b>160</b>	Knowledge of methods to repair hearing aids and assistive devices or send out for repair.
	<b>88</b>	Modify hearing aid and/or earmold to improve fit and comfort for patient.	<b>161</b>	Knowledge of techniques and equipment needed to modify hearing aids and earmolds.
	<b>89</b>	Conduct hearing aid and/or assistive device maintenance to ensure components are performing optimally.	<b>162</b>	Knowledge of methods and parts to maintain hearing aids and assistive devices.
	<b>92</b>	Provide instruction and training on use and care of hearing aid and/or assistive device.	<b>165</b>	Knowledge of the use and care of hearing aids and assistive devices.
	<b>93</b>	Provide information about hearing aid and/or assistive device cost, payment terms, trial period, warranties, and refund policy.	<b>166</b>	Knowledge of hearing aid and assistive device cost, trial period, warranties, and refund policy.

<b>5. Implantable Devices (5%) – This content area assesses the candidate’s knowledge of patient candidacy, selection, fitting, and verification of implantable devices and assistive listening technologies, including troubleshooting and repair.</b>				
	<b>Job Task</b>		<b>Associated Knowledge</b>	
	<b>T</b>		<b>K</b>	
	<b>94</b>	Conduct evaluation to determine patient candidacy for implantable devices and device options.	<b>167</b>	Knowledge of patient-specific criteria that must be met for implantable device candidacy.
			<b>168</b>	Knowledge of FDA guidelines pertaining to implantable devices.
	<b>95</b>	Counsel patient regarding selection options and realistic expectations of implantable devices.	<b>169</b>	Knowledge of function and limitations of implantable devices.
	<b>96</b>	Utilize computer software to assess implant electrode impedances.	<b>170</b>	Knowledge of methods and procedures to assess electrode impedances.
	<b>97</b>	Conduct implant neural telemetry using computer software to establish patient stimulation levels.	<b>171</b>	Knowledge of how to utilize computer software in operating room.
			<b>172</b>	Knowledge of methods and procedures to assess neural telemetry.
			<b>173</b>	Knowledge of methods and procedures to assess implant patient stimulation levels.
	<b>98</b>	Elicit electrically evoked stapedial reflexes to establish patient stimulation levels.	<b>174</b>	Knowledge of methods and procedures to elicit electrically evoked stapedial reflexes.
	<b>99</b>	Conduct subjective loudness growth testing to establish patient stimulation levels.	<b>175</b>	Knowledge of methods and procedures to conduct subjective loudness growth testing.
	<b>100</b>	Determine parameters to stimulate electrodes and program external implant processor.	<b>176</b>	Knowledge of methods to determine parameters to stimulate electrodes and program external implant processor.
	<b>101</b>	Conduct soundfield tests to assess patient performance with implantable device.	<b>177</b>	Knowledge of methods and procedures to conduct soundfield tests for implantable devices.

<b>5. Implantable Devices (5%) continued – This content area assesses the candidate’s knowledge of patient candidacy, selection, fitting, and verification of implantable devices and assistive listening technologies, including troubleshooting and repair.</b>				
	<b>Job Task</b>		<b>Associated Knowledge</b>	
	<b>102</b>	Conduct pure-tone air conduction testing to assess residual hearing after implantation of hybrid device.	<b>178</b>	Knowledge of pure-tone air conduction testing to assess residual hearing.
	<b>103</b>	Troubleshoot problems with implantable devices	<b>179</b>	Knowledge of methods to troubleshoot external components of implantable devices.
			<b>180</b>	Knowledge of methods to troubleshoot internal components of implantable devices.
	<b>104</b>	Provide maintenance, repair services, and estimated cost for repair of external components of implantable devices.	<b>181</b>	Knowledge of maintenance and repair methods for external components of implantable devices
			<b>182</b>	Knowledge of costs to repair external components of implantable devices.
	<b>105</b>	Examine surgical site and external portion of implantable device to identify irregularities that could lead to performance problems.	<b>183</b>	Knowledge of appearance of normal and abnormal healing of surgical site of implantation.
			<b>184</b>	Knowledge of common complications associated with implantable device surgery.
	<b>106</b>	Conduct listening check of external components to determine if external device is functioning.	<b>185</b>	Knowledge of methodology to conduct listening check of external components of implantable devices.
	<b>107</b>	Provide instruction and training on use and care of implantable devices, including device trial period and warranties.	<b>186</b>	Knowledge of manufacturer specifications and suggestions regarding the care and use of implantable devices.
			<b>187</b>	Knowledge of methods to instruct and train patients on the use and care of implantable devices.
			<b>188</b>	Knowledge of trial period and warranty information for implantable devices.
	<b>108</b>	Counsel patients regarding use of assistive listening devices with implantable devices.	<b>189</b>	Knowledge of compatibility and use of assistive listening devices with implantable devices.

<b>6. Laws and Regulations (11%) – This content area assesses the candidate’s knowledge of laws and regulations pertaining to patient privacy, safety, universal precautions, documentation, billing, and advertising.</b>				
	<b>Job Task</b>		<b>Associated Knowledge</b>	
	<b>T</b>		<b>K</b>	
	<b>109</b>	Obtain informed consent and communicate with patients in accordance with laws and regulations.	<b>190</b>	Knowledge of laws and regulations related to informed consent.
			<b>204*</b>	Knowledge of effective communication practices and patient rights to an interpreter.
	<b>110</b>	Obtain medical clearance for hearing aid use in accordance with laws and regulations.	<b>191</b>	Knowledge of laws and regulations for obtaining medical clearance for hearing aid use.
	<b>111</b>	Document and maintain patient records in accordance with laws and regulations.	<b>192</b>	Knowledge of laws and regulations for documenting and maintaining patient records.
	<b>112</b>	Maintain confidentiality of patient records in accordance with laws and regulations.	<b>193</b>	Knowledge of laws and regulations regarding confidentiality of patient records.
			<b>194</b>	Knowledge of laws and regulations regarding release of patient records.
			<b>195</b>	Knowledge of legal requirements of HIPAA.
			<b>196</b>	Knowledge of legal requirements of FERPA.
	<b>113</b>	Adhere to laws and regulations regarding insurance billing, use of billing codes, and documentation.	<b>197</b>	Knowledge of laws and regulations regarding insurance billing and use of billing codes.
			<b>198</b>	Knowledge of documentation requirements for insurance reimbursement.
	<b>114</b>	Adhere to laws and regulations related to marketing and advertising of audiologist credentials, services, and products.	<b>199</b>	Knowledge of laws and regulations regarding marketing and advertising of audiologist credentials.
			<b>200</b>	Knowledge of laws and regulations regarding marketing and advertising audiologist services and products.
	<b>115</b>	Follow universal precautions for safety and infection control in the workplace.	<b>201</b>	Knowledge of universal precautions for safety and infection control.
			<b>202</b>	Knowledge of laws and regulations related to maintaining material safety data sheets.
	<b>116</b>	Maintain written standard operating procedures for safety and infection control in the workplace.	<b>203</b>	Knowledge of laws and regulations related to documentation of standard operating procedures for safety and infection control.

\*NOTE: K204 was added in the June 2017 workshop, so no mean importance rating was collected from questionnaire participants.



## CHAPTER 6. CONCLUSION

The occupational analysis of the audiologist profession described in this report provides a comprehensive description of current practice in California. The procedures employed to perform the occupational analysis were based upon a content validation strategy to ensure that the results accurately represent audiology practice. Results of this occupational analysis provide information regarding current practice that can be used to review the Praxis Audiology test in order to make job-related decisions regarding professional licensure.

This report provides all documentation necessary to verify that the analysis has been completed in accordance with legal, professional, and technical standards.

## APPENDIX A. RESPONDENTS BY REGION

## LOS ANGELES COUNTY AND VICINITY

County of Practice	Frequency
Los Angeles	71
Orange	26
TOTAL	97

## SAN FRANCISCO BAY AREA

County of Practice	Frequency
Alameda	15
Contra Costa	10
Marin	5
Napa	1
San Francisco	8
San Mateo	5
Santa Clara	22
Santa Cruz	2
Solano	5
TOTAL	73

## SAN DIEGO COUNTY AND VICINITY

County of Practice	Frequency
Imperial	0
San Diego	55
TOTAL	55

## RIVERSIDE AND VICINITY

County of Practice	Frequency
Riverside	4
San Bernardino	8
TOTAL	12

## SAN JOAQUIN VALLEY

County of Practice	Frequency
Fresno	5
Kern	4
Kings	1
Madera	2
Merced	0
San Joaquin	1
Stanislaus	3
Tulare	0
TOTAL	16

## SACRAMENTO VALLEY

County of Practice	Frequency
Butte	2
Colusa	0
Sacramento	16
Sutter	0
Yolo	0
Yuba	0
TOTAL	18

## SIERRA MOUNTAIN VALLEY

County of Practice	Frequency
Alpine	0
Amador	0
El Dorado	1
Inyo	0
Mono	0
Nevada	1
Placer	5
Plumas	1
Sierra	0
Tuolumne	0
TOTAL	8

## SOUTH/CENTRAL COAST

County of Practice	Frequency
Monterey	5
San Luis Obispo	1
Santa Barbara	5
Ventura	3
TOTAL	14

## SHASTA/CASCADE

County of Practice	Frequency
Shasta	0
Siskiyou	0
Trinity	0
TOTAL	0

# NORTH COAST

County of Practice	Frequency
Del Norte	0
Humboldt	0
Mendocino	1
Sonoma	5
TOTAL	6

# MISSING

	Frequency
TOTAL	7

## APPENDIX B. CRITICALITY INDICES FOR ALL TASKS

## 1. Patient Intake (19%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
1	Obtain patient information regarding reason for visit, current symptoms, concerns, and expectations.	4.78	4.7	<b>22.95</b>
2	Obtain patient history related to ears, hearing, and communication.	4.68	4.65	<b>22.52</b>
20	Evaluate patient information to determine if referral is needed.	4.29	4.22	<b>19.65</b>
5	Obtain patient information regarding current and past noise exposure and incidents of otologic/head and acoustic trauma.	4.16	4.02	<b>18.08</b>
8	Obtain patient general medical and surgical history and current health status.	4.13	3.82	<b>16.69</b>
3	Obtain patient history related to tinnitus.	3.96	3.81	<b>16.68</b>
14	Obtain family medical history related to ears, hearing, and communication.	4.11	3.68	<b>16.65</b>
4	Obtain patient history related to dizziness, balance, and vestibular dysfunction.	3.94	3.78	<b>16.4</b>
18	Evaluate patient information for indications of deficits in auditory, vestibular, and communication functions.	3.9	3.72	<b>16.07</b>
16	Identify patient life activities impacted by hearing/balance-related symptoms.	3.7	3.57	<b>15.23</b>
7	Obtain patient history of hearing assistive technology use.	3.89	3.59	<b>15.21</b>
11	Obtain patient history of developmental function.	3.09	3.19	<b>12.1</b>
17	Evaluate patient's past and current medications for relationship to hearing, tinnitus, dizziness, and balance.	3.07	3.12	<b>11.53</b>
19	Evaluate patient information for indications of developmental, neurological, visual, physiological, psychosocial, and somatosensory concerns.	3.01	3	<b>11.24</b>
9	Obtain patient information on current and past medications, vitamins, minerals, and herbal supplements.	3.1	2.98	<b>11.14</b>
13	Obtain patient history of psychosocial function.	2.63	2.73	<b>9.58</b>
12	Obtain patient history of educational function.	2.62	2.65	<b>9.54</b>
21	Communicate with hearing impaired patients using methods other than spoken language.	2.36	3.2	<b>9.19</b>
15	Obtain family medical history related to dizziness and balance.	2.59	2.52	<b>8.78</b>
6	Obtain patient history of chemical and environmental hazard exposure.	2.56	2.6	<b>8.55</b>
10	Obtain patient history of tobacco, alcohol, and recreational substance use.	2.11	2.04	<b>6.29</b>

## 2. Diagnostic Testing – Preparation, Behavioral, and Anatomic and Physiologic (23%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
29	Conduct pure-tone air conduction testing to determine hearing thresholds.	4.5	4.54	<b>22</b>
25	Conduct otoscopy of external auditory canal and tympanic membrane to identify landmarks and abnormalities.	4.54	4.44	<b>21.68</b>
30	Conduct pure-tone bone conduction test to determine type of hearing loss.	4.42	4.45	<b>21.36</b>
22	Select diagnostic tests to conduct based on patient history and symptoms.	4.39	4.45	<b>20.53</b>
24	Examine external ear for abnormalities.	4.47	4.24	<b>20.42</b>
32	Conduct masked pure-tone and speech testing to determine ear-specific thresholds.	4.24	4.36	<b>20.42</b>
27	Conduct tympanometry to determine ear canal volume and assess middle ear function and mobility of tympanic membrane.	4.25	4.21	<b>19.91</b>
31	Assess patient's speech reception and/or detection (awareness) threshold.	4.32	4.08	<b>19.56</b>
33	Evaluate patient's word recognition at suprathreshold levels with or without background noise.	4.12	4.09	<b>18.99</b>
23	Perform periodic equipment assessments and maintenance to ensure functionality in accordance with manufacturer specifications.	3.82	4.22	<b>17.23</b>
39	Utilize pediatric and developmentally appropriate audiological test methods.	3.14	3.43	<b>14.19</b>
28	Conduct acoustic reflex testing to assess middle ear function and integrity of VII and VIII cranial nerve pathways.	3.43	3.37	<b>14.08</b>
35	Conduct otoacoustic emissions tests to assess cochlear outer hair cell function.	2.86	3.08	<b>11.78</b>
34	Determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.	2.6	2.66	<b>9.24</b>
26	Perform cerumen management to allow for diagnostic testing.	2.04	2.62	<b>8</b>
40	Conduct auditory brainstem response (ABR) testing to identify auditory response thresholds, assess integrity of cranial nerve VIII, and lower brainstem auditory pathways.	1.63	2.38	<b>7.26</b>
37	Conduct Stenger test to assess for pseudohypoacusis (malingering).	1.78	2.78	<b>6.65</b>
46	Conduct videonystagmography (VNG) or electronystagmography (ENG) to assess vestibular and oculomotor function.	1.25	1.69	<b>5.24</b>



<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
51	Conduct tests to diagnose benign paroxysmal positional vertigo (BPPV).	1.15	1.65	<b>5</b>
36	Conduct tinnitus matching and residual inhibition tests to describe tinnitus and determine management.	1.24	1.6	<b>3.66</b>
38	Conduct Weber and Rinne tests to verify type and laterality of hearing loss.	0.93	1.17	<b>2.9</b>
47	Conduct vestibular evoked myogenic potential (VEMP) test to assess vestibular function.	0.44	0.99	<b>2.09</b>
54	Evaluate noise levels of various listening environments to determine need for acoustic modifications for communication purposes.	0.57	1.04	<b>2.03</b>
52	Conduct test battery to assess central auditory processing function.	0.54	1.16	<b>1.74</b>
45	Perform neuro-intraoperative monitoring to assess neural function during surgical procedures.	0.37	0.94	<b>1.55</b>
48	Conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.	0.33	0.83	<b>1.54</b>
41	Conduct auditory steady state response (ASSR) test to estimate auditory threshold.	0.42	1	<b>1.46</b>
53	Conduct survey of environmental sound levels to assess need for hearing conservation.	0.37	0.86	<b>1.28</b>
43	Conduct electrocochleography (ECoG) to assess cochlear-evoked potential function.	0.37	0.72	<b>1.24</b>
50	Conduct rotary chair tests to assess vestibular function.	0.24	0.79	<b>1.07</b>
42	Conduct evoked middle and late potential response tests to assess central auditory nervous system function.	0.24	0.67	<b>0.84</b>
49	Conduct dynamic posturography to assess vestibular and balance function.	0.19	0.69	<b>0.84</b>
44	Conduct electroneuronography (ENoG) to assess cranial nerve VII integrity.	0.13	0.56	<b>0.5</b>

### 3. Audiologic Results (23%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
55	Review test results for reliability and validity.	4.54	4.53	<b>21.53</b>
62	Discuss auditory test results and implications with patient and authorized care providers.	4.5	4.53	<b>21.31</b>
57	Interpret objective audiological test results.	4.41	4.49	<b>20.94</b>
63	Recommend management or treatment options to patient and authorized care providers.	4.36	4.38	<b>20.19</b>
56	Interpret behavioral audiological test results.	4.24	4.32	<b>19.73</b>
61	Evaluate test results to determine differential diagnosis.	3.79	3.87	<b>16.96</b>
67	Counsel patients regarding aural (re)habilitation options.	3.81	3.81	<b>16.53</b>
66	Refer patients to other healthcare providers for further testing, treatment, or management.	3.5	4.01	<b>15.57</b>
64	Recommend methods for hearing conservation.	3.2	3.51	<b>12.89</b>
74	Counsel patients regarding resource options for support.	3.2	3.43	<b>12.68</b>
72	Counsel patients regarding tinnitus and hyperacusis management options.	2.87	3.24	<b>11.64</b>
68	Provide patients with aural (re)habilitation treatment to improve communication function.	2.69	3	<b>11.52</b>
75	Monitor hearing thresholds to determine significant threshold shifts for the purpose of hearing conservation.	2.32	2.73	<b>9.39</b>
59	Interpret auditory electrophysiological test results.	2.08	2.57	<b>9.25</b>
58	Interpret vestibular test results.	1.49	1.93	<b>6.57</b>
73	Provide tinnitus and hyperacusis treatment.	1.59	2.18	<b>6.32</b>
65	Recommend methods to compensate for, and/or (re)habilitate, vestibular function.	1.28	1.61	<b>4.89</b>
69	Counsel patients regarding vestibular (re)habilitation options.	1.26	1.59	<b>4.63</b>
71	Provide vestibular treatments for benign paroxysmal positional vertigo (BPPV).	0.8	1.41	<b>3.5</b>
60	Interpret central auditory processing test results.	0.7	1.24	<b>2.41</b>
70	Provide patients with vestibular (re)habilitation treatment to improve balance function.	0.44	0.89	<b>1.77</b>

#### 4. Hearing Aids and Assistive Devices (19%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
76	Conduct evaluation to determine patient candidacy for hearing aid and/or assistive devices.	4.15	4.15	<b>19.24</b>
91	Counsel patient regarding realistic expectations of hearing aid and/or assistive device.	3.99	3.97	<b>17.94</b>
83	Perform visual and listening check of hearing aid and/or assistive devices.	3.85	3.84	<b>17.28</b>
86	Troubleshoot problems with hearing aid and/or assistive devices.	3.77	3.78	<b>16.97</b>
92	Provide instruction and training on use and care of hearing aid and/or assistive device.	3.59	3.71	<b>16.49</b>
77	Conduct evaluation to select hearing aid and/or assistive devices to address patient needs.	3.52	3.57	<b>16.31</b>
84	Modify hearing aid and/or assistive device settings using computer software.	3.44	3.62	<b>16.13</b>
89	Conduct hearing aid and/or assistive device maintenance to ensure components are performing optimally.	3.28	3.39	<b>14.58</b>
93	Provide information about hearing aid and/or assistive device cost, payment terms, trial period, warranties, and refund policy.	3.28	3.29	<b>14.53</b>
87	Provide repair services, options, and estimated cost for repair of hearing aid and/or assistive devices.	3.19	3.22	<b>14.1</b>
78	Take ear impressions for custom products.	3.06	3.4	<b>13.9</b>
88	Modify hearing aid and/or earmold to improve fit and comfort for patient.	2.8	3.18	<b>12.28</b>
82	Measure sound levels at the tympanic membrane using probe-microphone real-ear measures to verify output of hearing aid and/or assistive devices.	2.61	3.09	<b>11.75</b>
79	Perform electroacoustic analysis to verify that hearing aid and/or assistive devices are functioning within manufacturer specifications.	2.46	3.02	<b>10.81</b>
80	Measure sound levels using the test coupler to verify output of hearing aid and/or assistive devices.	2.06	2.6	<b>8.47</b>
90	Conduct validation measures (e.g., outcome questionnaire) to assess subjective patient outcomes with hearing aids and/or assistive devices.	2.2	2.51	<b>8.41</b>
85	Conduct unaided versus aided soundfield tests to assess patient performance.	2.1	2.38	<b>7.36</b>

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
81	Measure real-ear-to-coupler-difference (RECD) to modify the hearing aid and/or assistive device programming.	1.65	2.3	<b>6.72</b>

## 5. Implantable Devices (5%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
94	Conduct evaluation to determine patient candidacy for implantable devices and device options.	1.6	2.27	<b>6.59</b>
95	Counsel patient regarding selection options and realistic expectations of implantable devices.	1.56	2.17	<b>6.46</b>
103	Troubleshoot problems with implantable devices.	1.21	1.76	<b>5.27</b>
108	Counsel patients regarding use of assistive listening devices with implantable devices.	1.3	1.76	<b>5.25</b>
106	Conduct listening check of external components to determine if external device is functioning.	1.16	1.68	<b>4.87</b>
101	Conduct soundfield tests to assess patient performance with implantable device.	1.06	1.56	<b>4.49</b>
107	Provide instruction and training on use and care of implantable devices, including device trial period and warranties.	1.01	1.46	<b>4.17</b>
105	Examine surgical site and external portion of implantable device to identify irregularities that could lead to performance problems.	0.96	1.46	<b>3.95</b>
96	Utilize computer software to assess implant electrode impedances.	0.75	1.23	<b>3.47</b>
104	Provide maintenance, repair services, and estimated cost for repair of external components of implantable devices.	0.82	1.29	<b>3.21</b>
100	Determine parameters to stimulate electrodes and program external implant processor.	0.68	1.15	<b>3.13</b>
102	Conduct pure-tone air conduction testing to assess residual hearing after implantation of hybrid device.	0.71	1.23	<b>2.91</b>
99	Conduct subjective loudness growth testing to establish patient stimulation levels.	0.67	1.08	<b>2.87</b>
97	Conduct implant neural telemetry using computer software to establish patient stimulation levels.	0.62	1.11	<b>2.61</b>
98	Elicit electrically evoked stapedial reflexes to establish patient stimulation levels.	0.37	0.9	<b>1.4</b>

## 6. Laws and Regulations (11%)

<b>TASK NO.</b>	<b>TASK STATEMENT</b>	<b>MEAN FREQ (F)</b>	<b>MEAN IMP (I)</b>	<b>TASK CRITICALITY INDEX</b>
112	Maintain confidentiality of patient records in accordance with laws and regulations.	4.91	4.84	<b>23.85</b>
115	Follow universal precautions for safety and infection control in the workplace.	4.79	4.68	<b>23.01</b>
111	Document and maintain patient records in accordance with laws and regulations.	4.83	4.7	<b>23</b>
113	Adhere to laws and regulations regarding insurance billing, use of billing codes, and documentation.	4.24	4.19	<b>20.05</b>
109	Obtain informed consent and communicate with patients in accordance with laws and regulations.	3.87	3.91	<b>18.1</b>
116	Maintain written standard operating procedures for safety and infection control in the workplace.	3.9	3.95	<b>18.05</b>
114	Adhere to laws and regulations related to marketing and advertising of audiologist credentials, services, and products.	3.57	3.5	<b>16.62</b>
110	Obtain medical clearance for hearing aid use in accordance with laws and regulations.	3.62	3.76	<b>16.41</b>

## APPENDIX C. KNOWLEDGE IMPORTANCE RATINGS

## 1. Patient Intake (19%)

<b>KNOWLEDGE NUMBER</b>	<b>KNOWLEDGE STATEMENT</b>	<b>MEAN IMPORTANCE</b>
5	Knowledge of relationship between ear pathology, infections, and hearing loss.	<b>4.59</b>
4	Knowledge of signs and symptoms of hearing impairment.	<b>4.51</b>
2	Knowledge of signs and symptoms of abnormal communication abilities.	<b>4.34</b>
1	Knowledge of signs and symptoms of normal communication abilities.	<b>4.27</b>
3	Knowledge of interview techniques and cultural factors that affect communication with patients from various cultural backgrounds.	<b>4.09</b>
11	Knowledge of signs and symptoms of acoustic trauma.	<b>4.04</b>
10	Knowledge of relationship between noise exposure and hearing.	<b>4.03</b>
6	Knowledge of signs and symptoms of communication and processing disorders.	<b>4</b>
44	Knowledge of indicators of medical conditions that require referral to other providers.	<b>3.98</b>
15	Knowledge of hearing assistive technology and applications.	<b>3.96</b>
34	Knowledge of effects of hearing impairment, balance disorders, and related communication impairments on activities of daily life.	<b>3.92</b>
29	Knowledge of psychological effects of hearing and communication impairments.	<b>3.91</b>
36	Knowledge of relationship between vision, hearing, and communication.	<b>3.87</b>
17	Knowledge of medical conditions and their effect on hearing, balance, and communication.	<b>3.86</b>
45	Knowledge of available resources for referral.	<b>3.83</b>
12	Knowledge of head trauma effects on the auditory and vestibular systems.	<b>3.79</b>
30	Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychosocial function.	<b>3.71</b>
27	Knowledge of effects of hearing impairment and related communication impairments on educational access and achievement.	<b>3.69</b>
7	Knowledge of causes and characteristics of tinnitus.	<b>3.66</b>
26	Knowledge of syndromes and disorders affecting auditory and communication development.	<b>3.65</b>



38	Knowledge of pathophysiology of auditory, vestibular, and central nervous systems.	<b>3.65</b>
37	Knowledge of etiologic factors affecting auditory, vestibular, and central nervous system disorders.	<b>3.63</b>
18	Knowledge of pharmacological effects on hearing and balance.	<b>3.57</b>
32	Knowledge of genetic factors related to hearing loss and communication impairments.	<b>3.56</b>
25	Knowledge of normal and abnormal development of speech and language.	<b>3.52</b>
43	Knowledge of indicators of psychological conditions that require referral to other providers.	<b>3.48</b>
23	Knowledge of stages of human development of the auditory, vestibular, and central nervous systems.	<b>3.46</b>
24	Knowledge of normal and abnormal human development related to hearing and balance systems.	<b>3.45</b>
35	Knowledge of pharmacological effects on auditory, vestibular, and balance systems.	<b>3.37</b>
39	Knowledge of indicators of normal and abnormal neurological and physiological function.	<b>3.37</b>
8	Knowledge of signs and symptoms of vestibular dysfunction.	<b>3.36</b>
9	Knowledge of causes of dizziness and balance issues.	<b>3.36</b>
31	Knowledge of common psychological conditions that affect hearing.	<b>3.29</b>
28	Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychoeducational function.	<b>3.27</b>
40	Knowledge of indicators of normal and abnormal vestibular function.	<b>3.19</b>
16	Knowledge of circulatory disorders and their effect on hearing and balance.	<b>3.05</b>
14	Knowledge of effects of chemical and environmental hazard exposure on hearing systems.	<b>3.04</b>
42	Knowledge of indicators of normal and abnormal psychosocial function.	<b>2.94</b>
13	Knowledge of signs and symptoms of chemical and environmental hazard exposure.	<b>2.87</b>
33	Knowledge of genetic factors related to vestibular system and function.	<b>2.84</b>
21	Knowledge of effects of alcohol on hearing and balance.	<b>2.78</b>
22	Knowledge of effects of recreational substance use on hearing and balance.	<b>2.75</b>
19	Knowledge of effects of vitamins, minerals, and herbal supplements on hearing and balance.	<b>2.71</b>

20	Knowledge of effects of tobacco on hearing and balance.	<b>2.67</b>
41	Knowledge of indicators of normal and abnormal somatosensory function.	<b>2.64</b>
47	Knowledge of nonverbal methods of communication.	<b>2.4</b>
46	Knowledge of American Sign Language.	<b>1.54</b>

## 2. Diagnostic Testing - Preparation, Behavioral, and Anatomic and Physiologic (23%)

<b>KNOWLEDGE NUMBER</b>	<b>KNOWLEDGE STATEMENT</b>	<b>MEAN IMPORTANCE</b>
48	Knowledge of standardized diagnostic tests and applications.	<b>4.62</b>
49	Knowledge of diagnostic tests appropriate for patient based upon history and symptoms.	<b>4.62</b>
63	Knowledge of pure-tone air conduction testing techniques and procedures.	<b>4.61</b>
64	Knowledge of pure-tone bone conduction testing techniques and procedures.	<b>4.57</b>
66	Knowledge of conditions that require masking for pure-tone and speech audiometry.	<b>4.55</b>
67	Knowledge of methods to apply masking for pure-tone and speech audiometry.	<b>4.52</b>
53	Knowledge of signs and symptoms of external ear obstruction.	<b>4.5</b>
52	Knowledge of normal and abnormal anatomy of the external ear.	<b>4.45</b>
54	Knowledge of anatomy and physiology of the external auditory canal.	<b>4.41</b>
65	Knowledge of methods to assess speech reception and/or detection (awareness) thresholds.	<b>4.39</b>
58	Knowledge of methods to conduct tympanometry testing.	<b>4.34</b>
55	Knowledge of normal and abnormal appearance of the tympanic membrane.	<b>4.33</b>
68	Knowledge of methods and materials to assess word recognition in quiet and/or noise.	<b>4.33</b>
72	Knowledge of indicators of pseudohypoacusis (malingering).	<b>4.04</b>
50	Knowledge of daily biological checks of equipment function.	<b>3.92</b>
57	Knowledge of function and use of pressure equalization (PE) tubes.	<b>3.83</b>
76	Knowledge of techniques to obtain conditioned responses to behavioral audiological testing.	<b>3.78</b>
62	Knowledge of methods to conduct ipsilateral and contralateral acoustic reflex testing.	<b>3.76</b>
79	Knowledge of developmentally appropriate audiological-testing techniques.	<b>3.73</b>
61	Knowledge of acoustic reflex pathways.	<b>3.66</b>
60	Knowledge of acoustic reflex threshold and decay.	<b>3.56</b>
70	Knowledge of methods and stimuli to conduct otoacoustic emissions testing.	<b>3.55</b>

51	Knowledge of requirements for electroacoustic calibration of equipment.	<b>3.5</b>
75	Knowledge of indicators of laterality of hearing loss.	<b>3.44</b>
77	Knowledge of observable signs of reflexive behavioral responses to auditory stimuli.	<b>3.37</b>
73	Knowledge of methods to conduct Stenger test.	<b>3.2</b>
69	Knowledge of methods to determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.	<b>3.15</b>
59	Knowledge of methods to conduct Eustachian tube function testing.	<b>2.88</b>
56	Knowledge of cerumen removal procedures.	<b>2.52</b>
81	Knowledge of methods to test integrity of cranial nerve VIII and lower brainstem auditory pathways.	<b>2.4</b>
80	Knowledge of patient preparation and setup for auditory brainstem response (ABR) tests.	<b>2.37</b>
78	Knowledge of phonologic, morphologic, syntactic, and pragmatic aspects of verbal communication development.	<b>2.34</b>
84	Knowledge of methods to identify evoked auditory thresholds.	<b>2.27</b>
82	Knowledge of temporal, spectral, and amplitude characteristics of sounds utilized to elicit auditory responses.	<b>2.09</b>
83	Knowledge of effects of propagation and transmission on temporal, spectral, and amplitude characteristics of sound.	<b>2</b>
103	Knowledge of acoustic modifications suitable in various environments.	<b>1.91</b>
102	Knowledge of laws and regulations related to hazardous environmental sound levels.	<b>1.87</b>
71	Knowledge of methods and stimuli to perform tinnitus matching and residual inhibition testing.	<b>1.84</b>
74	Knowledge of methods to conduct Weber and Rinne tests.	<b>1.78</b>
92	Knowledge of patient preparation required for VNG and ENG testing.	<b>1.75</b>
99	Knowledge of tests to diagnose benign paroxysmal positional vertigo (BPPV).	<b>1.72</b>
91	Knowledge of operating room safety and infection control requirements.	<b>1.69</b>
93	Knowledge of methods to conduct videonystagmography (VNG).	<b>1.69</b>
100	Knowledge of methods and materials to assess central auditory processing function.	<b>1.42</b>
86	Knowledge of methods to assess central auditory nervous system function.	<b>1.38</b>

94	Knowledge of methods to conduct electronystagmography (ENG).	<b>1.28</b>
101	Knowledge of methods to survey environmental sound levels.	<b>1.21</b>
88	Knowledge of procedures to monitor VII cranial nerve function.	<b>1.12</b>
85	Knowledge of methods to conduct auditory steady state response (ASSR) test.	<b>1.04</b>
95	Knowledge of methods to conduct vestibular evoked myogenic potential (VEMP) test.	<b>0.94</b>
87	Knowledge of methods to conduct electrocochleography (ECoG).	<b>0.93</b>
90	Knowledge of methods to conduct neuro-intraoperative monitoring.	<b>0.8</b>
96	Knowledge of methods to conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.	<b>0.77</b>
98	Knowledge of methods to conduct rotary chair tests.	<b>0.72</b>
89	Knowledge of methods to conduct electroneuronography (ENoG).	<b>0.68</b>
97	Knowledge of methods to conduct dynamic posturography.	<b>0.68</b>

### 3. Audiologic Results (23%)

KNOWLEDGE NUMBER	KNOWLEDGE STATEMENT	MEAN IMPORTANCE
113	Knowledge of factors differentiating type and degree of hearing loss.	4.64
104	Knowledge of how to assess reliability and validity of diagnostic test results.	4.51
105	Knowledge of factors that affect reliability and validity of test results.	4.51
120	Knowledge of implications of normal and abnormal auditory test results.	4.5
116	Knowledge of counseling techniques to explain test results.	4.46
108	Knowledge of interpretation of objective audiological test results.	4.41
117	Knowledge of relationship between background noise, hearing, and communication related to patient test results.	4.32
106	Knowledge of interpretation of behavioral audiological test results.	4.27
119	Knowledge of counseling techniques to explain treatment options and recommendations.	4.25
124	Knowledge of test results that require referral to other healthcare providers.	4.13
107	Knowledge of behavioral responses to auditory stimuli.	4.1
118	Knowledge of effects of hearing and communication impairment on educational, vocational, social, and psychological functioning.	3.93
126	Knowledge of strategies to address patient communication deficits.	3.93
121	Knowledge of potential side effects of and contraindications of treatment options.	3.88
127	Knowledge of assistive listening devices used to treat different listening needs.	3.79
128	Knowledge of assistive listening devices (e.g., remote microphone technology, FM systems, etc.).	3.76
122	Knowledge of methods and techniques to conserve hearing.	3.72
140	Knowledge of methods for determining significant threshold shifts.	3.69
125	Knowledge of healthcare resources available outside of audiologist practice area.	3.5
129	Knowledge of methods to provide hearing rehabilitation.	3.4
114	Knowledge of factors differentiating peripheral from central auditory disorders.	3.3
131	Knowledge of methods to provide treatment for different communication deficiencies.	3.11
130	Knowledge of methods to provide hearing habilitation.	3.08
135	Knowledge of tinnitus and hyperacusis management options.	2.87

138	Knowledge of social programs and organizations for people with auditory, vestibular, communicative, and other related dysfunctions.	<b>2.82</b>
139	Knowledge of third-party programs that may provide financial or charitable assistance to patients.	<b>2.77</b>
136	Knowledge of methods to provide tinnitus and hyperacusis counseling.	<b>2.69</b>
110	Knowledge of interpretation of auditory electrophysiological test results.	<b>2.68</b>
137	Knowledge of habituation and masking techniques for treatment of tinnitus and hyperacusis.	<b>2.53</b>
115	Knowledge of factors differentiating peripheral from central vestibular disorders.	<b>2.35</b>
111	Knowledge of normal and abnormal functioning of central auditory pathways.	<b>2.33</b>
141	Knowledge of laws and regulations regarding hearing conservation.	<b>2.32</b>
109	Knowledge of interpretation of vestibular test results.	<b>2.02</b>
112	Knowledge of interpretation of central auditory processing test results.	<b>1.73</b>
134	Knowledge of methods to provide treatment for benign paroxysmal positional vertigo (BPPV).	<b>1.55</b>
132	Knowledge of methods to (re)habilitate vestibular function.	<b>1.28</b>
123	Knowledge of methods to (re)habilitate vestibular function.	<b>1.25</b>
133	Knowledge of methods to provide treatment for vestibular (re)habilitation.	<b>1.19</b>

#### 4. Hearing Aids and Assistive Devices (19%)

KNOWLEDGE NUMBER	KNOWLEDGE STATEMENT	MEAN IMPORTANCE
142	Knowledge of criteria that determine patient candidacy for hearing aid and/or assistive device.	4.19
164	Knowledge of realistic expectations of hearing aids and assistive devices.	4
143	Knowledge of hearing aid and assistive device characteristics and compatibility with lifestyle and physical/cognitive abilities.	3.94
158	Knowledge of normal functioning of hearing aids and assistive devices.	3.82
165	Knowledge of the use and care of hearing aids and assistive devices.	3.81
159	Knowledge of methods to troubleshoot problems with hearing aids and assistive devices.	3.8
154	Knowledge of techniques to perform listening checks of hearing aids and/or assistive listening devices.	3.73
153	Knowledge of techniques to perform visual checks of hearing aids and/or assistive listening devices.	3.72
146	Knowledge of methods for taking ear impressions.	3.71
155	Knowledge of techniques to modify settings on hearing aids and other assistive devices.	3.62
156	Knowledge of computer software to modify settings of hearing aids and assistive devices.	3.61
145	Knowledge of ear impression materials and techniques.	3.6
144	Knowledge of assistive listening devices (FM systems, etc.) and how they interface with hearing aids.	3.57
160	Knowledge of methods to repair hearing aids and assistive devices or send out for repair.	3.53
162	Knowledge of methods and parts to maintain hearing aids and assistive devices.	3.46
166	Knowledge of hearing aid and assistive device cost, trial period, warranties, and refund policy.	3.42
147	Knowledge of methods to perform electroacoustic and manual quality check on hearing aids and assistive listening devices.	3.4
161	Knowledge of techniques and equipment needed to modify hearing aids and earmolds.	3.36
163	Knowledge of methods and materials to conduct validation measures to assess subjective patient outcomes.	3.17
152	Knowledge of method to measure sound levels at the tympanic membrane using probe-microphone measures.	3.02
157	Knowledge of techniques to perform soundfield tests while patient is wearing a hearing aid or assistive device.	2.89
148	Knowledge of ANSI standards to verify hearing aid performance.	2.82



149	Knowledge of methods to measure sound levels of a hearing aid using a test coupler.	<b>2.78</b>
151	Knowledge of methods to apply RECD to adjust hearing aids and/or assistive devices.	<b>2.47</b>
150	Knowledge of methods to measure real-ear-to-coupler-difference (RECD).	<b>2.43</b>

## 5. Implantable Devices (5%)

<b>KNOWLEDGE NUMBER</b>	<b>KNOWLEDGE STATEMENT</b>	<b>MEAN IMPORTANCE</b>
167	Knowledge of patient-specific criteria that must be met for implantable device candidacy.	<b>2.72</b>
169	Knowledge of function and limitations of implantable devices.	<b>2.42</b>
168	Knowledge of FDA guidelines pertaining to implantable devices.	<b>2.38</b>
178	Knowledge of pure-tone air conduction testing to assess residual hearing.	<b>2.24</b>
189	Knowledge of compatibility and use of assistive listening devices with implantable devices.	<b>1.75</b>
184	Knowledge of common complications associated with implantable device surgery.	<b>1.64</b>
179	Knowledge of methods to troubleshoot external components of implantable devices.	<b>1.6</b>
177	Knowledge of methods and procedures to conduct soundfield tests for implantable devices.	<b>1.57</b>
185	Knowledge of methodology to conduct listening check of external components of implantable devices.	<b>1.57</b>
186	Knowledge of manufacturer specifications and suggestions regarding the care and use of implantable devices.	<b>1.55</b>
183	Knowledge of appearance of normal and abnormal healing of surgical site of implantation.	<b>1.54</b>
187	Knowledge of methods to instruct and train patients on the use and care of implantable devices.	<b>1.54</b>
181	Knowledge of maintenance and repair methods for external components of implantable devices.	<b>1.51</b>
188	Knowledge of trial period and warranty information for implantable devices.	<b>1.28</b>
170	Knowledge of methods and procedures to assess electrode impedances.	<b>1.19</b>
173	Knowledge of methods and procedures to assess implant patient stimulation levels.	<b>1.13</b>
180	Knowledge of methods to troubleshoot internal components of implantable devices.	<b>1.13</b>
175	Knowledge of methods and procedures to conduct subjective loudness growth testing.	<b>1.09</b>
182	Knowledge of costs to repair external components of implantable devices.	<b>1.06</b>
176	Knowledge of methods to determine parameters to stimulate electrodes and program external implant processor.	<b>1.04</b>
172	Knowledge of methods and procedures to assess neural telemetry.	<b>0.96</b>
171	Knowledge of how to utilize computer software in operating room.	<b>0.87</b>
174	Knowledge of methods and procedures to elicit electrically evoked stapedial reflexes.	<b>0.84</b>

## 6. Laws and Regulations (11%)

KNOWLEDGE NUMBER	KNOWLEDGE STATEMENT	MEAN IMPORTANCE
193	Knowledge of laws and regulations regarding confidentiality of patient records.	4.67
195	Knowledge of legal requirements of HIPAA.	4.59
201	Knowledge of universal precautions for safety and infection control.	4.57
192	Knowledge of laws and regulations for documenting and maintaining patient records.	4.55
194	Knowledge of laws and regulations regarding release of patient records.	4.53
190	Knowledge of laws and regulations related to informed consent.	4.01
191	Knowledge of laws and regulations for obtaining medical clearance for hearing aid use.	3.95
203	Knowledge of laws and regulations related to documentation of standard operating procedures for safety and infection control.	3.93
202	Knowledge of laws and regulations related to maintaining material safety data sheets.	3.28
197	Knowledge of laws and regulations regarding insurance billing and use of billing codes.	3.21
196	Knowledge of legal requirements of FERPA.	3.07
198	Knowledge of documentation requirements for insurance reimbursement.	3.02
199	Knowledge of laws and regulations regarding marketing and advertising of audiologist credentials.	2.87
200	Knowledge of laws and regulations regarding marketing and advertising audiologist services and products.	2.67
204	Knowledge of effective communication practices and patient rights to an interpreter.	*

*\*NOTE: K204 was added in the June 2017 workshop, so no mean importance rating was collected from questionnaire participants.*

## APPENDIX D. QUESTIONNAIRE INVITATION LETTER



April 24, 2017

Dear Licensee:

The Speech-Language Pathology & Audiology & Hearing Aid Dispensers Board (Board) requests your participation in an occupational analysis of the audiology profession, and we would like to award you **2 CE hours** for helping us with this very important project.

The purpose of the study is to identify the critical job tasks performed by audiologists and the associated knowledge required for safe and competent performance upon entry into the profession.

Results of the occupational analysis will provide the Board with essential information regarding current audiology practice. In addition, the competencies identified during the study will assist the Board in making decisions regarding licensing examinations in the future.

Your input is greatly appreciated in this vital process. The occupational analysis survey will be available online from **April 25 to May 17, 2017**, 24 hours a day, 7 days a week.

The Board estimates that completion of the survey will take approximately 2-3 hours. Upon completion of the entire survey, participating audiologists will receive 2 continuing education (CE) credits. The Board will not be sending CE certificates but will maintain a list of those who have been awarded the 2 CE credits in the event of an audit.

For your convenience, once you have started the survey, you can exit at any time and return to it later without losing your responses, as long as you are accessing the survey from the same computer.

**Your individual responses to the survey questions will be kept confidential.** The information you provide will not be recorded or stored in connection with your personal information. If you are interested in participating in the future of your profession, please:

1. Go to: <https://www.surveymonkey.com/r/audauOA2017>
2. Log in using your password (case sensitive): 2017AUOA (all letters upper case)

The Board appreciates your commitment to your profession.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul Sanchez'.

**Paul Sanchez**  
Executive Officer

## APPENDIX E. QUESTIONNAIRE



Audiology OA 2017

Welcome!

Dear Licensee:

The Speech-Language Pathology and Audiology and Hearing Aid Dispensers Board (Board) is conducting an occupational analysis of the audiology profession, and you have been selected to participate in the occupational analysis questionnaire. The purpose of the occupational analysis questionnaire is to identify the important tasks performed by audiologists in current practice, as well as the knowledge required to perform those tasks. The results of this occupational analysis questionnaire will be used to update the audiology description of practice.

Please complete the questionnaire as it relates to your current practice. Licensees completing the questionnaire in its entirety will earn 2 Continuing Education (CE) hours.

Your individual responses will be kept confidential. Your responses will be analyzed with the responses of other audiologists and only group data will be reported.

To progress through this questionnaire, use the following navigation buttons:

- Click the Next button to continue to the next page.
- Click the Prev button to return to the previous page.
- Click the Exit this survey button to exit the questionnaire and return to it at a later time.
- Click the Done/Submit button to submit your survey when fully completed.

Any question marked with an asterisk (\*) requires an answer in order to progress through the questionnaire.

This questionnaire can take approximately 2 hours to complete. However, once you have started the questionnaire, you can exit at any time and return to it later without losing your responses as long as you are accessing the questionnaire from the same computer. The questionnaire automatically saves fully-completed pages, but will not save responses to questions on pages that were partially completed when the questionnaire was exited. This means that in order for a page to save, you must have completed that page and selected the "next" button. For your convenience, the weblink is available 24 hours a day 7 days a week.

## Questionnaire Details

The questionnaire contains three main sections.

Part I asks you for background information about yourself and your current job.

Part II asks you to rate audiology task statements in terms of HOW OFTEN you perform each task in your current job; and HOW IMPORTANT the performance of each task is to your current job.

Part III asks you to rate audiology knowledge statements in terms of HOW IMPORTANT each type of knowledge is to the performance of tasks in your current job.

Please review the instructions for each question before responding, as instructions and rating scales will change and several questions permit multiple responses.

Please submit the completed questionnaire by Wednesday, May 17th, 2017.

If you have any questions about completing the questionnaire, please contact Tim Yang at [tim.yang@dca.ca.gov](mailto:tim.yang@dca.ca.gov). The Board welcomes your participation in this project and thanks you for your time!





Audiology OA 2017

Part I: Demographic Information

The information you provide is voluntary and confidential. It will be treated as personal information subject to the Information Practices Act (*Civil Section 1798 et seq.*) and will be used solely for the purpose of analyzing the ratings from this questionnaire.

\* 1. Are you currently practicing in California as a licensed audiologist?

- ☐ YES - I am currently licensed and practicing in California as an audiologist
- ☐ NO - I am currently licensed but not practicing in California as an audiologist



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Part I - Personal Information Continued

2. In the box below, please provide your email address. An email confirmation will be sent to you to confirm that you initiated the survey and to confirm when you complete the survey.

3. How many years have you been licensed as an audiologist in California?

- ☐ 0 to 5 years
- ☐ 6 to 10 years
- ☐ 11 to 20 years
- ☐ 21 to 29 years
- ☐ 30 or more years

4. How many hours per week do you work as an audiologist?

- ☐ 10 or less hours
- ☐ 11 to 20 hours
- ☐ 21 to 30 hours
- ☐ 31 to 40 hours
- ☐ 41 or more hours

5. What is the highest level of education you have achieved?

- ☐ Master's degree in audiology
- ☐ Master's degree in communicative disorders
- ☐ AuD
- ☐ PhD in audiology
- ☐ Other (please specify)

6. In which of the following settings do you currently provide services?

- ☐ Correctional facility
- ☐ ENT office
- ☐ Group home/sheltered workshop
- ☐ Hospital
- ☐ Industrial (on-site)
- ☐ Manufacturers
- ☐ Outpatient clinic
- ☐ Private practice
- ☐ Public school (K-12 education)
- ☐ Regional center
- ☐ Retail
- ☐ Skilled nursing / long-term care / subacute care facility
- ☐ Speech and language clinic
- ☐ University/university clinic
- ☐ VA/military
- ☐ Web-based treatment /telepractice
- ☐ Other (please specify)

7. How would you classify the majority of your responsibilities as a licensed audiologist?

- ☐ Clinical services provider
- ☐ College/university professor/instructor
- ☐ Consultant
- ☐ Director/chair of an education program
- ☐ Director/supervisor of a clinical program
- ☐ Special education teacher
- ☐ Supervisor of clinicians
- ☐ CE provider
- ☐ Other (please specify)

8. In which of the following specialty areas do you practice? (please check all that apply)

- |                                                       |                                                         |
|-------------------------------------------------------|---------------------------------------------------------|
| <input type="checkbox"/> Academia                     | <input type="checkbox"/> Industrial                     |
| <input type="checkbox"/> Central auditory processing  | <input type="checkbox"/> Intraoperative monitoring      |
| <input type="checkbox"/> Community education/outreach | <input type="checkbox"/> Pediatrics                     |
| <input type="checkbox"/> Diagnostic testing           | <input type="checkbox"/> Rehabilitation                 |
| <input type="checkbox"/> Dispensing                   | <input type="checkbox"/> Research                       |
| <input type="checkbox"/> Educational (K-12)           | <input type="checkbox"/> Tinnitus management            |
| <input type="checkbox"/> Hearing conservation         | <input type="checkbox"/> Training supervision/preceptor |
| <input type="checkbox"/> Implantable devices          | <input type="checkbox"/> Vestibular testing             |

Other (please specify)

9. For which of the following clients do you currently provide services? (please check all that apply)

- |                                                            |                                                       |
|------------------------------------------------------------|-------------------------------------------------------|
| <input type="checkbox"/> Older Adults (71+ years of age)   | <input type="checkbox"/> Children (9-11years of age)  |
| <input type="checkbox"/> Adults (23-70 years of age)       | <input type="checkbox"/> Children (6-8 years of age)  |
| <input type="checkbox"/> Young Adults (18-22 years of age) | <input type="checkbox"/> Preschool (3-5 years of age) |
| <input type="checkbox"/> Teenagers (15-17 years of age)    | <input type="checkbox"/> Toddlers (1-2 years of age)  |
| <input type="checkbox"/> Young Teens (12-14 years of age)  | <input type="checkbox"/> Infants (0-12 months of age) |

10. Which other CA state-issued licenses do you hold? (please check all that apply)

- ☐ Dispensing Audiologist
- ☐ MFT
- ☐ Occupational Therapist
- ☐ Physical Therapist
- ☐ Speech-Language Pathologist
- ☐ None
- ☐ Other (please specify)

11. What other certificates/credentials do you possess? (please check all that apply)

- ☐ Administrative
- ☐ American Board of Audiology
- ☐ Applied Behavioral Analysis
- ☐ ASHA Certification of Clinical Competence -Audiology
- ☐ Clinical-rehabilitative services
- ☐ Counsel for the Accreditation Occupational Hearing Conservation
- ☐ Resource specialist
- ☐ Special education
- ☐ Teaching credential
- ☐ None
- ☐ Other (please specify)



Audiology OA 2017

California Counties

**Location of Audiology Services**

12. In which of the following California counties do you perform the majority of your work as an audiologist?

- |                                         |                                            |                                          |
|-----------------------------------------|--------------------------------------------|------------------------------------------|
| <input type="radio"/> 01 - Alameda      | <input type="radio"/> 21 - Marin           | <input type="radio"/> 41 - San Mateo     |
| <input type="radio"/> 02 - Alpine       | <input type="radio"/> 22 - Mariposa        | <input type="radio"/> 42 - Santa Barbara |
| <input type="radio"/> 03 - Amador       | <input type="radio"/> 23 - Mendocino       | <input type="radio"/> 43 - Santa Clara   |
| <input type="radio"/> 04 - Butte        | <input type="radio"/> 24 - Merced          | <input type="radio"/> 44 - Santa Cruz    |
| <input type="radio"/> 05 - Calaveras    | <input type="radio"/> 25 - Modoc           | <input type="radio"/> 45 - Shasta        |
| <input type="radio"/> 06 - Colusa       | <input type="radio"/> 26 - Mono            | <input type="radio"/> 46 - Sierra        |
| <input type="radio"/> 07 - Contra Costa | <input type="radio"/> 27 - Monterey        | <input type="radio"/> 47 - Siskiyou      |
| <input type="radio"/> 08 - Del Norte    | <input type="radio"/> 28 - Napa            | <input type="radio"/> 48 - Solano        |
| <input type="radio"/> 09 - El Dorado    | <input type="radio"/> 29 - Nevada          | <input type="radio"/> 49 - Sonoma        |
| <input type="radio"/> 10 - Fresno       | <input type="radio"/> 30 - Orange          | <input type="radio"/> 50 - Stanislaus    |
| <input type="radio"/> 11 - Glenn        | <input type="radio"/> 31 - Placer          | <input type="radio"/> 51 - Sutter        |
| <input type="radio"/> 12 - Humboldt     | <input type="radio"/> 32 - Plumas          | <input type="radio"/> 52 - Tehama        |
| <input type="radio"/> 13 - Imperial     | <input type="radio"/> 33 - Riverside       | <input type="radio"/> 53 - Trinity       |
| <input type="radio"/> 14 - Inyo         | <input type="radio"/> 34 - Sacramento      | <input type="radio"/> 54 - Tulare        |
| <input type="radio"/> 15 - Kern         | <input type="radio"/> 35 - San Benito      | <input type="radio"/> 55 - Tuolumne      |
| <input type="radio"/> 16 - Kings        | <input type="radio"/> 36 - San Bernardino  | <input type="radio"/> 56 - Ventura       |
| <input type="radio"/> 17 - Lake         | <input type="radio"/> 37 - San Diego       | <input type="radio"/> 57 - Yolo          |
| <input type="radio"/> 18 - Lassen       | <input type="radio"/> 38 - San Francisco   | <input type="radio"/> 58 - Yuba          |
| <input type="radio"/> 19 - Los Angeles  | <input type="radio"/> 39 - San Joaquin     |                                          |
| <input type="radio"/> 20 - Madera       | <input type="radio"/> 40 - San Luis Obispo |                                          |



## Audiology OA 2017

### Part II - Task Ratings

In this section of the questionnaire you will be presented with 116 task statements. Please rate each task as it relates to your current practice as an audiologist. Do not respond based on what you believe all audiologists should be expected to know or should be able to do.

First, using the Frequency Rating Scale below, you will be asked to rate each task statement in terms of Frequency (i.e., how frequently you perform the task). Then, using the Importance Rating Scale, you will be asked to rate the same task in terms of Importance (i.e., how important the task is in the performance of your current job).

Your Frequency and Importance ratings should be separate and independent ratings. Therefore, the ratings that you assign to one rating scale should not influence the ratings that you assign to the other rating scale. If the task is NOT part of your current practice, rate the task "0" (zero) Frequency and "0" (zero) Importance.

The boxes for rating the Frequency and Importance of each task have drop-down lists. Click on the "down" arrow for each list to see the ratings and then select the option based on your current job.

**FREQUENCY RATING SCALE** HOW OFTEN do you perform this task in your current job? Use the following scale to make your rating.

- 0 – NEVER; DOES NOT APPLY TO MY JOB. I never perform this task in my job.
- 1 – RARELY. This is one of the least frequently performed tasks in my job.
- 2 – SELDOM. I perform this task infrequently relative to other tasks in my job.
- 3 – OCCASIONALLY. I perform this task somewhat frequently. This task is about average in frequency relative to all other tasks in my job.
- 4 – OFTEN. I perform this task more frequently than most other tasks in my job.



**5 – VERY OFTEN.** I perform this task almost constantly, and it is one of the most frequently performed tasks in my job.

**IMPORTANCE RATING** HOW IMPORTANT are these tasks in the performance of your current practice? Use the following scale to make your ratings.

- **0 – DOES NOT APPLY TO MY JOB; NOT REQUIRED.** This job knowledge does not apply to my job.
- 1 – NOT IMPORTANT.** This job knowledge is not important for effective job performance.
- 2 – SOMEWHAT IMPORTANT.** This job knowledge is fairly important for job performance; however, it does not have the priority of importance of most other knowledge in my job.
- 3 – MODERATELY IMPORTANT.** This job knowledge is of moderate importance for job performance in some relatively major part of my job.
- 4 – VERY IMPORTANT.** This job knowledge is very important for job performance in a significant part of my job.
- 5 – CRITICALLY IMPORTANT.** This job knowledge is critically important for job performance.



## Audiology OA 2017

### Part II - Task Ratings (1-21)

#### 13. Patient History

	FREQUENCY	IMPORTANCE
1. Obtain patient information regarding reason for visit, current symptoms, concerns, and expectations.	<input type="text"/>	<input type="text"/>
2. Obtain patient history related to ears, hearing, and communication.	<input type="text"/>	<input type="text"/>
3. Obtain patient history related to tinnitus.	<input type="text"/>	<input type="text"/>
4. Obtain patient history related to dizziness, balance, and vestibular dysfunction.	<input type="text"/>	<input type="text"/>
5. Obtain patient information regarding current and past noise exposure and incidents of otologic/head and acoustic trauma.	<input type="text"/>	<input type="text"/>
6. Obtain patient history of chemical and environmental hazard exposure.	<input type="text"/>	<input type="text"/>
7. Obtain patient history of hearing assistive technology use.	<input type="text"/>	<input type="text"/>
8. Obtain patient general medical and surgical history and current health status.	<input type="text"/>	<input type="text"/>
9. Obtain information on patient's current and past medications, vitamins, minerals, and herbal supplements.	<input type="text"/>	<input type="text"/>
10. Obtain patient history of tobacco, alcohol, and recreational substance use.	<input type="text"/>	<input type="text"/>
11. Obtain patient history of developmental function.	<input type="text"/>	<input type="text"/>
12. Obtain patient history of educational function.	<input type="text"/>	<input type="text"/>

	FREQUENCY	IMPORTANCE
13. Obtain patient history of psychosocial function.	<input type="text"/>	<input type="text"/>
14. Obtain family medical history related to ears, hearing, and communication.	<input type="text"/>	<input type="text"/>
15. Obtain family medical history related to dizziness and balance.	<input type="text"/>	<input type="text"/>
16. Identify patient life activities impacted by hearing/balance-related symptoms.	<input type="text"/>	<input type="text"/>
17. Evaluate patient's past and current medications for relationship to hearing, tinnitus, dizziness, and balance.	<input type="text"/>	<input type="text"/>
18. Evaluate patient information for indications of deficits in auditory, vestibular, and communication functions.	<input type="text"/>	<input type="text"/>
19. Evaluate patient information for indications of developmental, neurological, visual, physiological, psychosocial, and somatosensory concerns.	<input type="text"/>	<input type="text"/>
20. Evaluate patient information to determine if referral is needed.	<input type="text"/>	<input type="text"/>
21. Communicate with hearing impaired patients using methods other than spoken language.	<input type="text"/>	<input type="text"/>



## Audiology OA 2017

### Part II - Task Ratings (22-54)

#### 14. Diagnostic Testing- General, Behavioral, and Physiological

	FREQUENCY	IMPORTANCE
22. Select diagnostic tests to conduct based on patient history and symptoms.	<input type="text"/>	<input type="text"/>
23. Perform periodic equipment assessments and maintenance to ensure functionality in accordance with manufacturer specifications.	<input type="text"/>	<input type="text"/>
24. Examine external ear for abnormalities.	<input type="text"/>	<input type="text"/>
25. Conduct otoscopy of external auditory canal and tympanic membrane to identify landmarks and abnormalities.	<input type="text"/>	<input type="text"/>
26. Perform cerumen management to allow for diagnostic testing.	<input type="text"/>	<input type="text"/>
27. Conduct tympanometry to determine ear canal volume and assess middle ear function and mobility of tympanic membrane.	<input type="text"/>	<input type="text"/>
28. Conduct acoustic reflex testing to assess middle ear function and integrity of VII and VIII cranial nerve pathways.	<input type="text"/>	<input type="text"/>
29. Conduct pure-tone air conduction testing to determine hearing thresholds.	<input type="text"/>	<input type="text"/>
30. Conduct pure-tone bone conduction test to determine type of hearing loss.	<input type="text"/>	<input type="text"/>
31. Assess patient's speech reception and/or detection (awareness) threshold.	<input type="text"/>	<input type="text"/>
32. Conduct masked pure-tone and speech testing to determine ear-specific thresholds.	<input type="text"/>	<input type="text"/>

	FREQUENCY	IMPORTANCE
33. Evaluate patient's word recognition at suprathreshold levels with or without background noise.	<input type="text"/>	<input type="text"/>
34. Determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.	<input type="text"/>	<input type="text"/>
35. Conduct otoacoustic emissions tests to assess cochlear outer hair cell function.	<input type="text"/>	<input type="text"/>
36. Conduct tinnitus matching and residual inhibition tests to describe tinnitus and determine management.	<input type="text"/>	<input type="text"/>
37. Conduct Stenger test to assess for pseudohypoacusis (malingering).	<input type="text"/>	<input type="text"/>
38. Conduct Weber and Rinne tests to verify type and laterality of hearing loss.	<input type="text"/>	<input type="text"/>
39. Utilize pediatric and developmentally-appropriate test methods.	<input type="text"/>	<input type="text"/>
40. Conduct auditory brainstem response (ABR) testing to identify auditory response thresholds, assess integrity of cranial nerve VIII, and lower brainstem auditory pathways.	<input type="text"/>	<input type="text"/>
41. Conduct auditory steady state response (ASSR) test to estimate auditory threshold.	<input type="text"/>	<input type="text"/>
42. Conduct evoked middle and late potential response tests to assess central auditory nervous system function.	<input type="text"/>	<input type="text"/>
43. Conduct electrocochleography (ECoG) to assess cochlear-evoked potential function.	<input type="text"/>	<input type="text"/>
44. Conduct electroneuronography (ENoG) to assess cranial nerve VII integrity.	<input type="text"/>	<input type="text"/>
45. Perform neuro intraoperative monitoring to assess neural function during surgical procedures.	<input type="text"/>	<input type="text"/>
46. Conduct videonystagmography (VNG) or electronystagmography (ENG) to assess vestibular and oculomotor function.	<input type="text"/>	<input type="text"/>
47. Conduct vestibular evoked myogenic potential (VEMP) test to assess vestibular function.	<input type="text"/>	<input type="text"/>
48. Conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.	<input type="text"/>	<input type="text"/>
49. Conduct dynamic posturography to assess vestibular and balance function.	<input type="text"/>	<input type="text"/>
50. Conduct rotary chair tests to assess vestibular function.	<input type="text"/>	<input type="text"/>

	FREQUENCY	IMPORTANCE
51. Conduct tests to diagnose benign paroxysmal positional vertigo (BPPV).	<input type="text"/>	<input type="text"/>
52. Conduct test battery to assess central auditory processing function.	<input type="text"/>	<input type="text"/>
53. Conduct survey of environmental sound levels to assess need for hearing conservation.	<input type="text"/>	<input type="text"/>
54. Evaluate noise levels of various listening environments to determine need for acoustic modifications for communication purposes.	<input type="text"/>	<input type="text"/>



## Audiology OA 2017

### Part II - Task Ratings (55-75)

#### 15. Test Result Evaluation, Recommendations, and Treatment

	FREQUENCY	IMPORTANCE
55. Review test results for reliability and validity.	<input type="text"/>	<input type="text"/>
56. Interpret behavioral audiological test results.	<input type="text"/>	<input type="text"/>
57. Interpret objective audiological test results.	<input type="text"/>	<input type="text"/>
58. Interpret vestibular test results.	<input type="text"/>	<input type="text"/>
59. Interpret auditory electrophysiological test results.	<input type="text"/>	<input type="text"/>
60. Interpret central auditory processing test results.	<input type="text"/>	<input type="text"/>
61. Evaluate test results to determine differential diagnosis.	<input type="text"/>	<input type="text"/>
62. Discuss auditory test results and implications with patient and authorized care providers.	<input type="text"/>	<input type="text"/>
63. Recommend management or treatment options to patient and authorized care providers.	<input type="text"/>	<input type="text"/>
64. Recommend methods for hearing conservation.	<input type="text"/>	<input type="text"/>
65. Recommend methods to compensate for, and/or (re)habilitate, vestibular function.	<input type="text"/>	<input type="text"/>
66. Refer patients to other healthcare providers for further testing, treatment, or management.	<input type="text"/>	<input type="text"/>
67. Counsel patients regarding aural (re)habilitation options.	<input type="text"/>	<input type="text"/>

	FREQUENCY	IMPORTANCE
68. Provide patients with aural (re)habilitation treatment to improve communication function.	<input type="text"/>	<input type="text"/>
69. Counsel patients regarding vestibular (re)habilitation options.	<input type="text"/>	<input type="text"/>
70. Provide patients with vestibular (re)habilitation treatment to improve balance function.	<input type="text"/>	<input type="text"/>
71. Provide vestibular treatments for benign paroxysmal positional vertigo (BPPV).	<input type="text"/>	<input type="text"/>
72. Counsel patients regarding tinnitus and hyperacusis management options.	<input type="text"/>	<input type="text"/>
73. Provide tinnitus and hyperacusis treatment.	<input type="text"/>	<input type="text"/>
74. Counsel patients regarding resource options for support.	<input type="text"/>	<input type="text"/>
75. Monitor hearing thresholds to determine significant threshold shifts for the purpose of hearing conservation.	<input type="text"/>	<input type="text"/>





## Audiology OA 2017

### Part II - Task Ratings (76-93)

#### 16. Hearing Aid Dispensing

	Frequency	Importance
76. Conduct evaluation to determine patient candidacy for hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>
77. Conduct evaluation to select hearing aid and/or assistive devices to address patient needs.	<input type="text"/>	<input type="text"/>
78. Take ear impressions for custom products.	<input type="text"/>	<input type="text"/>
79. Perform electroacoustic analysis to verify that hearing aid and/or assistive devices are functioning within manufacturer specifications.	<input type="text"/>	<input type="text"/>
80. Measure sound levels using the test coupler to verify output of hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>
81. Measure real-ear-to-coupler-difference (RECD) to modify the hearing aid and/or assistive device programming.	<input type="text"/>	<input type="text"/>
82. Measure sound levels at the tympanic membrane using probe-microphone real-ear measures to verify output of hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>
83. Perform visual and listening check of hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>
84. Modify hearing aid and/or assistive device settings using computer software.	<input type="text"/>	<input type="text"/>
85. Conduct unaided versus aided soundfield tests to assess patient performance.	<input type="text"/>	<input type="text"/>
86. Troubleshoot problems with hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>

	Frequency	Importance
87. Provide repair services, options, and estimated cost for repair of hearing aid and/or assistive devices.	<input type="text"/>	<input type="text"/>
88. Modify hearing aid and/or earmold to improve fit and comfort for patient.	<input type="text"/>	<input type="text"/>
89. Conduct hearing aid and/or assistive device maintenance to ensure components are performing optimally.	<input type="text"/>	<input type="text"/>
90. Conduct validation measures (e.g., outcome questionnaire) to assess subjective patient outcomes with hearing aids and/or assistive devices.	<input type="text"/>	<input type="text"/>
91. Counsel patient regarding realistic expectations of hearing aid and/or assistive device.	<input type="text"/>	<input type="text"/>
92. Provide instruction and training on use and care of hearing aid and/or assistive device.	<input type="text"/>	<input type="text"/>
93. Provide information about hearing aid and/or assistive device cost, payment terms, trial period, warranties, and refund policy.	<input type="text"/>	<input type="text"/>



Audiology OA 2017

Part II - Task Ratings (94-108)

## 17. Implantable Devices

	Frequency	Importance
94. Conduct evaluation to determine patient candidacy for implantable devices and device options.	<input type="text"/>	<input type="text"/>
95. Counsel patient regarding selection options and realistic expectations of implantable devices.	<input type="text"/>	<input type="text"/>
96. Utilize computer software to assess implant electrode impedances.	<input type="text"/>	<input type="text"/>
97. Conduct implant neural telemetry using computer software to establish patient stimulation levels.	<input type="text"/>	<input type="text"/>
98. Elicit electrically evoked stapedial reflexes to establish patient stimulation levels.	<input type="text"/>	<input type="text"/>
99. Conduct subjective loudness growth testing to establish patient stimulation levels.	<input type="text"/>	<input type="text"/>
100. Determine parameters to stimulate electrodes and program external implant processor.	<input type="text"/>	<input type="text"/>
101. Conduct soundfield tests to assess patient performance with implantable device.	<input type="text"/>	<input type="text"/>
102. Conduct pure-tone air conduction testing to assess residual hearing after implantation of hybrid device.	<input type="text"/>	<input type="text"/>
103. Troubleshoot problems with implantable devices.	<input type="text"/>	<input type="text"/>
104. Provide maintenance, repair services, and estimated cost for repair of external components of implantable devices.	<input type="text"/>	<input type="text"/>
105. Examine surgical site and external portion of implantable device to identify irregularities that could lead to performance problems.	<input type="text"/>	<input type="text"/>
106. Conduct listening check of external components to determine if external device is functioning.	<input type="text"/>	<input type="text"/>
107. Provide instruction and training on use and care of implantable devices, including device trial period and warranties.	<input type="text"/>	<input type="text"/>
108. Counsel patients regarding use of assistive listening devices with implantable devices.	<input type="text"/>	<input type="text"/>



## Audiology OA 2017

### Part II - Task Ratings (109-116)

#### 18. Laws and Regulations

	FREQUENCY	IMPORTANCE
109. Obtain informed consent in accordance with laws and regulations.	<input type="text"/>	<input type="text"/>
110. Obtain medical clearance for hearing aid use in accordance with laws and regulations.	<input type="text"/>	<input type="text"/>
111. Document and maintain patient records in accordance with laws and regulations.	<input type="text"/>	<input type="text"/>
112. Maintain confidentiality of patient records in accordance with laws and regulations.	<input type="text"/>	<input type="text"/>
113. Adhere to laws and regulations regarding insurance billing, use of billing codes, and documentation.	<input type="text"/>	<input type="text"/>
114. Adhere to laws and regulations related to marketing and advertising of audiologist credentials, services, and products.	<input type="text"/>	<input type="text"/>
115. Follow universal precautions for safety and infection control in the workplace.	<input type="text"/>	<input type="text"/>
116. Maintain written standard operating procedures for safety and infection control in the workplace.	<input type="text"/>	<input type="text"/>



Audiology OA 2017

### Part III - Knowledge Ratings

In this section of the questionnaire you will be presented with 203 knowledge statements. Please rate each of the knowledge statements based on how important the knowledge is to successful and safe performance of your job. If a knowledge statement is NOT part of your job, then rate it "0" (zero) for Importance.

The boxes for rating the Importance of each knowledge statement have a drop-down list. Click on the "down" arrow for the list to see the ratings. Then select the rating based on your current practice.

#### IMPORTANCE RATING SCALE

HOW IMPORTANT is this knowledge in the performance of your current practice?

Use the following scale to make your ratings.

- **0 – DOES NOT APPLY TO MY JOB; NOT REQUIRED.** This job knowledge does not apply to my job.
- 1 – NOT IMPORTANT.** This job knowledge is not important for effective job performance.
- 2 – SOMEWHAT IMPORTANT.** This job knowledge is fairly important for job performance; however, it does not have the priority of importance of most other knowledge in my job.
- 3 – MODERATELY IMPORTANT.** This job knowledge is of moderate importance for job performance in some relatively major part of my job.
- 4 – VERY IMPORTANT.** This job knowledge is very important for job performance in a significant part of my job.
- 5 – CRITICALLY IMPORTANT.** This job knowledge is critically important for job performance.



## Audiology OA 2017

### Part III - Knowledge Ratings (1-30)

#### 19. Patient History

	IMPORTANCE
1. Knowledge of signs and symptoms of normal communication abilities.	<input type="text"/>
2. Knowledge of signs and symptoms of abnormal communication abilities.	<input type="text"/>
3. Knowledge of interview techniques to elicit required information.	<input type="text"/>
4. Knowledge of signs and symptoms of hearing impairment.	<input type="text"/>
5. Knowledge of relationship between ear pathology, infections, and hearing loss.	<input type="text"/>
6. Knowledge of signs and symptoms of communication and processing disorders.	<input type="text"/>
7. Knowledge of causes and characteristics of tinnitus.	<input type="text"/>
8. Knowledge of signs and symptoms of vestibular dysfunction.	<input type="text"/>
9. Knowledge of causes of dizziness and balance issues.	<input type="text"/>
10. Knowledge of relationship between noise exposure and hearing.	<input type="text"/>
11. Knowledge of signs and symptoms of acoustic trauma.	<input type="text"/>
12. Knowledge of head trauma effects on the auditory and vestibular systems.	<input type="text"/>
13. Knowledge of signs and symptoms of chemical and environmental hazard exposure.	<input type="text"/>
14. Knowledge of effects of chemical and environmental hazard exposure on hearing systems.	<input type="text"/>

	IMPORTANCE
15. Knowledge of hearing assistive technology and applications.	<input type="text"/>
16. Knowledge of circulatory disorders and their effect on hearing and balance.	<input type="text"/>
17. Knowledge of medical conditions and their effect on hearing, balance, and communication.	<input type="text"/>
18. Knowledge of pharmacological effects on hearing and balance.	<input type="text"/>
19. Knowledge of effects of vitamins, minerals, and herbal supplements on hearing and balance.	<input type="text"/>
20. Knowledge of effects of tobacco on hearing and balance.	<input type="text"/>
21. Knowledge of effects of alcohol on hearing and balance.	<input type="text"/>
22. Knowledge of effects of recreational substance use on hearing and balance.	<input type="text"/>
23. Knowledge of stages of human development of the auditory, vestibular, and central nervous systems.	<input type="text"/>
24. Knowledge of normal and abnormal human development related to hearing and balance systems.	<input type="text"/>
25. Knowledge of normal and abnormal development of speech and language.	<input type="text"/>
26. Knowledge of syndromes and disorders effecting auditory and communication development.	<input type="text"/>
27. Knowledge of effects of hearing impairment and related communication impairments on educational access and achievement.	<input type="text"/>
28. Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychoeducational function.	<input type="text"/>
29. Knowledge of psychological effects of hearing and communication impairments.	<input type="text"/>
30. Knowledge of effects of hearing impairment, balance disorders, and communication impairments on psychosocial function.	<input type="text"/>





Audiology OA 2017

Part III- Knowledge Ratings (31-47)

## 20. Patient History

	Importance
31. Knowledge of common psychological conditions that affect hearing.	<input type="text"/>
32. Knowledge of genetic factors related to hearing loss and communication impairments.	<input type="text"/>
33. Knowledge of genetic factors related to vestibular system and function.	<input type="text"/>
34. Knowledge of effects of hearing impairment, balance disorders, and related communication impairments on activities of daily life.	<input type="text"/>
35. Knowledge of pharmacological effects on auditory, vestibular, and balance systems.	<input type="text"/>
36. Knowledge of relationship between vision, hearing, and communication.	<input type="text"/>
37. Knowledge of etiologic factors affecting auditory, vestibular, and central nervous system disorders.	<input type="text"/>
38. Knowledge of pathophysiology of auditory, vestibular, and central nervous systems.	<input type="text"/>
39. Knowledge of indicators of normal and abnormal neurological and physiological function.	<input type="text"/>
40. Knowledge of indicators of normal and abnormal vestibular function.	<input type="text"/>
41. Knowledge of indicators of normal and abnormal somatosensory function.	<input type="text"/>
42. Knowledge of indicators of normal and abnormal psychosocial function.	<input type="text"/>
43. Knowledge of indicators of psychological conditions that require referral to other providers.	<input type="text"/>
44. Knowledge of indicators of medical conditions that require referral to other providers.	<input type="text"/>
45. Knowledge of available resources for referral.	<input type="text"/>
46. Knowledge of American Sign Language.	<input type="text"/>
47. Knowledge of non-verbal methods of communication.	<input type="text"/>



## Audiology OA 2017

### Part III- Knowledge Ratings (48-75)

#### 21. Diagnostic Testing- General, Behavioral, and Physiological

	Importance
48. Knowledge of standardized diagnostic tests and applications.	<input type="text"/>
49. Knowledge of diagnostic tests appropriate for patient based upon history and symptoms.	<input type="text"/>
50. Knowledge of daily biological checks of equipment function.	<input type="text"/>
51. Knowledge of requirements for electroacoustic calibration of equipment.	<input type="text"/>
52. Knowledge of normal and abnormal anatomy of the external ear.	<input type="text"/>
53. Knowledge of signs and symptoms of external ear obstruction.	<input type="text"/>
54. Knowledge of anatomy and physiology of the external auditory canal.	<input type="text"/>
55. Knowledge of normal and abnormal appearance of the tympanic membrane.	<input type="text"/>
56. Knowledge of cerumen removal procedures.	<input type="text"/>
57. Knowledge of function and use of pressure equalization (PE) tubes.	<input type="text"/>
58. Knowledge of methods to conduct tympanometry testing.	<input type="text"/>
59. Knowledge of methods to conduct Eustachian tube function testing.	<input type="text"/>
60. Knowledge of acoustic reflex threshold and decay.	<input type="text"/>
61. Knowledge of acoustic reflex pathways.	<input type="text"/>
62. Knowledge of methods to conduct ipsilateral and contralateral acoustic reflex testing.	<input type="text"/>

	Importance
63. Knowledge of pure-tone air conduction testing techniques and procedures.	<input type="text"/>
64. Knowledge of pure-tone bone conduction testing techniques and procedures.	<input type="text"/>
65. Knowledge of methods to assess speech reception and/or detection (awareness) thresholds.	<input type="text"/>
66. Knowledge of conditions that require masking for pure-tone and speech audiometry.	<input type="text"/>
67. Knowledge of methods to apply masking for pure-tone and speech audiometry.	<input type="text"/>
68. Knowledge of methods and materials to assess word recognition in quiet and/or noise.	<input type="text"/>
69. Knowledge of methods to determine most comfortable levels (MCL) and uncomfortable levels (UCL) of sound stimuli.	<input type="text"/>
70. Knowledge of methods and stimuli to conduct otoacoustic emissions testing.	<input type="text"/>
71. Knowledge of methods and stimuli to perform tinnitus matching and residual inhibition testing.	<input type="text"/>
72. Knowledge of indicators of pseudohypoacusis (malingering).	<input type="text"/>
73. Knowledge of methods to conduct Stenger test.	<input type="text"/>
74. Knowledge of methods to conduct Weber and Rinne tests.	<input type="text"/>
75. Knowledge of indicators of laterality of hearing loss.	<input type="text"/>



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### Part III- Knowledge Ratings (76-103)

#### 22. Diagnostic Testing- General, Behavioral, and Physiological

	Importance
76. Knowledge of techniques to condition behavioral responses.	<input type="text"/>
77. Knowledge of observable signs of reflexive behavioral responses.	<input type="text"/>
78. Knowledge of phonologic, morphologic, syntactic, and pragmatic aspects of verbal communication development.	<input type="text"/>
79. Knowledge of developmentally-appropriate testing techniques.	<input type="text"/>
80. Knowledge of patient preparation and set up for auditory brainstem response (ABR) tests.	<input type="text"/>
81. Knowledge of methods to test integrity of cranial nerve VIII and lower brainstem auditory pathways.	<input type="text"/>
82. Knowledge of temporal, spectral, and amplitude characteristics of sounds utilized to elicit auditory responses.	<input type="text"/>
83. Knowledge of effects of propagation and transmission on temporal, spectral, and amplitude characteristics of sound.	<input type="text"/>
84. Knowledge of methods to identify evoked auditory thresholds.	<input type="text"/>
85. Knowledge of methods to conduct auditory steady state response (ASSR) test.	<input type="text"/>
86. Knowledge of methods to assess central auditory nervous system function.	<input type="text"/>
87. Knowledge of methods to conduct electrocochleography (ECoG).	<input type="text"/>
88. Knowledge of procedures to monitor VII cranial nerve function.	<input type="text"/>
89. Knowledge of methods to conduct electroneuronography (ENoG).	<input type="text"/>

	Importance
90. Knowledge of methods to conduct neuro intraoperative monitoring.	<input type="text"/>
91. Knowledge of operating room safety and infection control requirements.	<input type="text"/>
92. Knowledge of patient preparation required for VNG and ENG testing.	<input type="text"/>
93. Knowledge of methods to conduct videonystagmography (VNG).	<input type="text"/>
94. Knowledge of methods to conduct electronystagmography (ENG).	<input type="text"/>
95. Knowledge of methods to conduct vestibular evoked myogenic potential (VEMP) test.	<input type="text"/>
96. Knowledge of methods to conduct video head impulse test (vHIT) and/or vestibular autorotation test (VAT) to assess vestibular function.	<input type="text"/>
97. Knowledge of methods to conduct dynamic posturography.	<input type="text"/>
98. Knowledge of methods to conduct rotary chair tests.	<input type="text"/>
99. Knowledge of tests to diagnose benign paroxysmal positional vertigo (BPPV).	<input type="text"/>
100. Knowledge of methods and materials to assess central auditory processing function.	<input type="text"/>
101. Knowledge of methods to survey environmental sound levels.	<input type="text"/>
102. Knowledge of laws and regulations related to hazardous environmental sound levels.	<input type="text"/>
103. Knowledge of acoustic modifications suitable in various environments.	<input type="text"/>



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Part III- Knowledge Ratings (104-122)

### 23. Test Result Evaluation, Recommendations, and Treatment

	Importance
104. Knowledge of how to assess reliability and validity of diagnostic test results.	<input type="text"/>
105. Knowledge of factors that affect reliability and validity of test results.	<input type="text"/>
106. Knowledge of interpretation of behavioral audiological test results.	<input type="text"/>
107. Knowledge of behavioral responses to auditory stimuli.	<input type="text"/>
108. Knowledge of interpretation of objective audiological test results.	<input type="text"/>
109. Knowledge of interpretation of vestibular test results.	<input type="text"/>
110. Knowledge of interpretation of auditory electrophysiological test results.	<input type="text"/>
111. Knowledge of normal and abnormal functioning of central auditory pathways.	<input type="text"/>
112. Knowledge of interpretation of central auditory processing test results.	<input type="text"/>
113. Knowledge of factors differentiating type and degree of hearing loss.	<input type="text"/>
114. Knowledge of factors differentiating peripheral from central auditory disorders.	<input type="text"/>
115. Knowledge of factors differentiating peripheral from central vestibular disorders.	<input type="text"/>
116. Knowledge of counseling techniques to explain test results.	<input type="text"/>
117. Knowledge of relationship between background noise, hearing, and communication related to patient test results.	<input type="text"/>
118. Knowledge of effects of hearing and communication impairment on educational, vocational, social, and psychological functioning.	<input type="text"/>
119. Knowledge of counseling techniques to explain treatment options and recommendations.	<input type="text"/>
120. Knowledge of implications of normal and abnormal auditory test results.	<input type="text"/>
121. Knowledge of potential side effects of and contraindications of treatment options.	<input type="text"/>
122. Knowledge of methods and techniques to conserve hearing.	<input type="text"/>





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Part III- Knowledge Ratings (123-141)

## 24. Test Result Evaluation, Recommendations, and Treatment

	IMPORTANCE
123. Knowledge of methods to (re)habilitate vestibular function.	<input type="text"/>
124. Knowledge of test results that require referral to other healthcare providers.	<input type="text"/>
125. Knowledge of healthcare resources available outside of audiologist practice area.	<input type="text"/>
126. Knowledge of strategies to address patient communication deficits.	<input type="text"/>
127. Knowledge of assistive listening devices used to treat different listening needs.	<input type="text"/>
128. Knowledge of assistive listening devices (e.g., remote microphone technology, FM systems, etc.).	<input type="text"/>
129. Knowledge of methods to provide hearing rehabilitation.	<input type="text"/>
130. Knowledge of methods to provide hearing habilitation.	<input type="text"/>
131. Knowledge of methods to provide treatment for different communication deficiencies.	<input type="text"/>
132. Knowledge of methods to (re)habilitate vestibular function.	<input type="text"/>
133. Knowledge of methods to provide treatment for vestibular (re)habilitation.	<input type="text"/>
134. Knowledge of methods to provide treatment for benign paroxysmal positional vertigo (BPPV).	<input type="text"/>
135. Knowledge of tinnitus and hyperacusis management options.	<input type="text"/>
136. Knowledge of methods to provide tinnitus and hyperacusis counseling.	<input type="text"/>
137. Knowledge of habituation and masking techniques for treatment of tinnitus and hyperacusis.	<input type="text"/>
138. Knowledge of social programs and organizations for people with auditory, vestibular, communicative, and other related dysfunctions.	<input type="text"/>
139. Knowledge of third-party programs that may provide financial or charitable assistance to patients.	<input type="text"/>
140. Knowledge of methods for determining significant threshold shifts.	<input type="text"/>
141. Knowledge of laws and regulations regarding hearing conservation.	<input type="text"/>



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### Part III- Knowledge Ratings (142-154)

#### 25. Hearing Aid Dispensing

	IMPORTANCE
142. Knowledge of criteria that determine patient candidacy for hearing aid and/or assistive device.	<input type="text"/>
143. Knowledge of hearing aid and assistive device characteristics and compatibility with lifestyle and physical/cognitive abilities.	<input type="text"/>
144. Knowledge of assistive listening devices (FM systems, etc.) and how they interface with hearing aids.	<input type="text"/>
145. Knowledge of ear impression materials and techniques.	<input type="text"/>
146. Knowledge of methods for taking ear impressions.	<input type="text"/>
147. Knowledge of methods to perform electroacoustic and manual quality check on hearing aids and assistive listening devices.	<input type="text"/>
148. Knowledge of ANSI standards to verify hearing aid performance.	<input type="text"/>
149. Knowledge of methods to measure sound levels of a hearing aid using a test coupler.	<input type="text"/>
150. Knowledge of methods to measure real-ear-to-coupler-difference (RECD).	<input type="text"/>
151. Knowledge of methods to apply RECD to adjust hearing aids and/or assistive devices.	<input type="text"/>
152. Knowledge of method to measure sound levels at the tympanic membrane using probe-microphone measures.	<input type="text"/>
153. Knowledge of techniques to perform visual checks of hearing aids and/or assistive listening devices.	<input type="text"/>
154. Knowledge of techniques to perform listening checks of hearing aids and/or assistive listening devices.	<input type="text"/>



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### Part III- Knowledge Ratings (155-166)

#### 26. Hearing Aid Dispensing

	IMPORTANCE
155. Knowledge of techniques to modify settings on hearing aids and other assistive devices.	<input type="text"/>
156. Knowledge of computer software to modify settings of hearing aids and assistive devices.	<input type="text"/>
157. Knowledge of techniques to perform soundfield tests while patient is wearing a hearing aid or assistive device.	<input type="text"/>
158. Knowledge of normal functioning of hearing aids and assistive devices.	<input type="text"/>
159. Knowledge of methods to troubleshoot problems with hearing aids and assistive devices.	<input type="text"/>
160. Knowledge of methods to repair hearing aids and assistive devices or send out for repair.	<input type="text"/>
161. Knowledge of techniques and equipment needed to modify hearing aids and earmolds.	<input type="text"/>
162. Knowledge of methods and parts to maintain hearing aids and assistive devices.	<input type="text"/>
163. Knowledge of methods and materials to conduct validation measures to assess subjective patient outcomes.	<input type="text"/>
164. Knowledge of realistic expectations of hearing aids and assistive devices.	<input type="text"/>
165. Knowledge of the use and care of hearing aids and assistive devices.	<input type="text"/>
166. Knowledge of hearing aid and assistive device cost, trial period, warranties, and refund policy.	<input type="text"/>



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### Part III- Knowledge Ratings (167-178)

#### 27. Implantable Devices

	IMPORTANCE
167. Knowledge of patient-specific criteria that must be met for implantable device candidacy.	<input type="text"/>
168. Knowledge of FDA guidelines pertaining to implantable devices.	<input type="text"/>
169. Knowledge of implantable devices function and limitations.	<input type="text"/>
170. Knowledge of methods and procedures to assess electrode impedances.	<input type="text"/>
171. Knowledge of how to utilize computer software in operating room.	<input type="text"/>
172. Knowledge of methods and procedures to assess neural telemetry.	<input type="text"/>
173. Knowledge of methods and procedures to assess implant patient stimulation levels.	<input type="text"/>
174. Knowledge of methods and procedures to elicit electrically evoked stapedial reflexes.	<input type="text"/>
175. Knowledge of methods and procedures to conduct subjective loudness growth testing.	<input type="text"/>
176. Knowledge of methods to determine parameters to stimulate electrodes and program external implant processor.	<input type="text"/>
177. Knowledge of methods and procedures to conduct soundfield tests for implantable devices.	<input type="text"/>
178. Knowledge of pure-tone air conduction testing to assess residual hearing.	<input type="text"/>



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### Part III- Knowledge Ratings (179-189)

#### 28. Implantable Devices

	IMPORTANCE
179. Knowledge of methods to troubleshoot external components of implantable devices.	<input type="text"/>
180. Knowledge of methods to troubleshoot internal components of implantable devices.	<input type="text"/>
181. Knowledge of maintenance and repair methods for external components of implantable devices.	<input type="text"/>
182. Knowledge of costs to repair external components of implantable devices.	<input type="text"/>
183. Knowledge of appearance of normal and abnormal healing of surgical site of implantation.	<input type="text"/>
184. Knowledge of common complications associated with implantable device surgery.	<input type="text"/>
185. Knowledge of methodology to conduct listening check of external components of implantable devices.	<input type="text"/>
186. Knowledge of manufacturer specifications and suggestions regarding the care and use of implantable devices.	<input type="text"/>
187. Knowledge of methods to instruct and train patients on the use and care of implantable devices.	<input type="text"/>
188. Knowledge of implantable device trial period and warranties information.	<input type="text"/>
189. Knowledge of compatibility and use of assistive listening devices with implantable devices.	<input type="text"/>



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### Part III- Knowledge Ratings (190-203)

#### 29. Laws and Regulations

	IMPORTANCE
190. Knowledge of laws and regulations related to informed consent.	<input type="text"/>
191. Knowledge of laws and regulations for obtaining medical clearance for hear aid use.	<input type="text"/>
192. Knowledge of laws and regulations for documenting and maintaining patient records.	<input type="text"/>
193. Knowledge of laws and regulations regarding confidentiality of patient records.	<input type="text"/>
194. Knowledge of laws and regulations regarding release of patient records.	<input type="text"/>
195. Knowledge of legal requirements of HIPAA.	<input type="text"/>
196. Knowledge of legal requirements of FERPA.	<input type="text"/>
197. Knowledge of laws and regulations regarding insurance billing and use of billing codes.	<input type="text"/>
198. Knowledge of documentation requirements for insurance reimbursement.	<input type="text"/>
199. Knowledge of laws and regulations regarding marketing and advertising of audiologist credentials.	<input type="text"/>
200. Knowledge of laws and regulations regarding marketing and advertising audiologist services and products.	<input type="text"/>
201. Knowledge of universal precautions for safety and infection control.	<input type="text"/>
202. Knowledge of laws and regulations related to maintaining manufacturer safety data sheets.	<input type="text"/>
203. Knowledge of laws and regulations related to documentation of standard operating procedures for safety and infection control.	<input type="text"/>



Audiology OA 2017

ALL DONE!

**Thank you for participating in the 2017 Audiologist Occupational Analysis project!**

**Once the completeness of your survey has been verified you will receive a letter from the Board confirming the CE credits for your records.**

**Speech-Language Pathology and Audiology and Hearing Aid Dispensers Board**



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