



Introduction to Audiology

Audiolab Assignment: Hearing Screenings

To complete this assignment, students will need to log into Audiolab. Students and faculty with active Simucase memberships may access Audiolab for free. To request access for you or your students, complete the Faculty Audiolab Access Request Form on the Simucase website.

Note that this document references guidance provided by ASHA and AAA, but does not provide links to their sites. You may wish to provide relevant links to your students prior to assigning this task.

Audiolab Assignment: Hearing Screenings

Instructor Information

Purpose

This assignment presents students with information about hearing screenings and provides practice performing hearing screenings using pure-tone audiometry.

General Information

This assignment is appropriate for students enrolled in an undergraduate Introduction to Audiology or Aural Rehabilitation course. This assignment is also appropriate for graduate speech-language pathology students who are completing clinical clock hours for hearing. In addition, this assignment could be used with Doctor of Audiology students at the beginning of their programs, especially those who do not have an undergraduate degree in speech, language, and hearing sciences. This assignment is designed to be used with the Audiolab Hearing Screening module. **No prerequisite skills are required for this assignment; however, a basic understanding of hearing healthcare and the importance of hearing for oral communication facilitates the active learning activity.**

Students can complete the assignment in-class or as an at-home activity. Within the Hearing Screening

module, students may visit five test environments. In each environment, students can screen 15 people (75 unique people total). For a beginning student, estimated total time to complete the hearing screenings for 15 people can take between 25 and 50 minutes. The shorter time frame is for students only practicing stimulus presentations and recording responses, while the longer time frame is for students to practice providing instructions and counseling after each hearing screening.

There are many ways to use the Audiolab hearing screening module, including:

- Stimulus presentation at fixed presentation levels with a binary scoring system (response versus no response).
- Manipulating typical audiometer controls (stimulus frequency dial, attenuator dial, etc.).
- Hearing screening instruction, case history questions, and counseling after screening results.
- Consideration of test environment where hearing screening takes place.
- Observing differences in sensitivity and specificity of screening procedure with different frequencies included and different presentation levels used.

In-Class Activity

Divide the class into three groups. Assign each group a different pediatric population (Fairview Elementary School, New Hope Middle School, or Pleasant Valley High School). All students should screen all 15 children in their assigned school.

Preactivity discussions in class can include:

- The importance of school hearing screening programs.
- The effect of including/excluding certain test frequencies.
- The duration of stimulus presentation.
- The number of stimulus presentations per frequency.
- Considerations of the demographics of the school district (e.g., children born outside the United States may not have had a newborn hearing screening).

Additional At-Home Activity

Divide the class into two groups. Assign each group a different adult population and have the class complete hearing screenings outside of class for the different adult populations (Deer Creek Active Living Community, Iron Works). Have all groups follow the ASHA guidelines for presentation level and frequency. Require students to provide the instructor with the number of people at their site who passed the hearing screening.

If desired, divide each group further into three groups. Instruct Group 1 to use the ASHA guidelines only for presentation level and frequency. Instruct Group 2 to shift the frequency up by one octave (2000, 4000, and 8000 Hz from 1000, 2000, and 4000 Hz) and Group 3 to shift the frequency down by one octave (500, 1000, and 2000 Hz from 1000, 2000, and 4000 Hz). During the next in-class period, allow time for a student-led discussion on how the included test frequencies can change screening outcomes.

Debriefing Questions for In-Class and At-Home Activities

- How is sensitivity and specificity calculated?
- How does the level of the test tone affect sensitivity and specificity?
- How is sensitivity and specificity affected by test frequency?
- What are some considerations for performing hearing screenings in school settings with populations of children who are multilingual or born in countries without newborn hearing screening programs?



- What other types of hearing screening options are available? When could these options be appropriate? What are some important considerations for the screening environment? How might the environment (i.e., school, nursing facility, etc.) affect screening results?
- Is it necessary to screen a child or adult with a known hearing impairment who wears amplification (e.g., hearing aid)? Why or why not?
- What populations may not be able to engage in hearing screenings that use a behavioral response to pure tones?

Other Instruction (optional)

You may wish to remind students that as a clinician, you should always try to treat the whole person. As an audiologist, you are diagnosing and treating auditory function and trying to improve a person's ability to communicate, connect with others, and fully engage in all aspects of their life. Invest in building rapport with your patient to better understand their communication challenges and what they want and need from your services. Simple conversations and case histories allow you to begin this process, but you should also listen carefully and use valid and reliable questionnaires.

Awarding Clinical Clock Hours

Students may earn 60 minutes of clinical clock hours in the area of hearing evaluation for each Audiolab Hearing Screening patient set completed. Faculty should follow ASHA guidelines regarding clinical simulation when awarding hours.

Citation

Calandrucio, L., & Ligon, E. (2024). Audiolab lesson plan: Hearing screenings (Faculty). [PDF]. Simucase LLC.