Audiometry - lab report example

Audiometry

Audiometry Lab Report s Audiometry Lab Report Audiometry is a method used in determining the degree of hearing ability of a patient. This is done by measuring the hearing sensitivity that is done by tests for speeches, sound stimuli, and pure tones. The results are then plotted graphically on an audiogram. Audio meter-Beltone, model 12d/9d measures the threshold of the hearing level and response. Test sound of various frequencies can be generated depending on the patients hearing threshold and response. Audiological investigations help tremendously in diagnosing the nature of deafness and disorder of several parts of the ear. It also assists in assessing the nature, degree, and probable cause of the hearing impairment of s patient.

The pure tone audiometry is used in determining the threshold of hearing of the patient. This is defined by the lowest hearing level at which the patient responds at least 51% of the time to auditory stimuli. These thresholds are found using procedures as recommended by the American Speech-Language-Hearing Association. Pure tone threshold testing should be handled in a sound controlled room. This will help in avoiding masking by unacceptable noise levels in the room. An audiogram is composed of three main parts namely, pure tone testing that determines ability to detect sound, and speech testing determines ability to decode sound, and tympanometry which helps in defining where the problem is. The normal hearing ability ranges between 10 - 25 dB HL while for serve cases it ranges between severe 70 - 85 dB HL.

For the first patient, the left ear, frequencies between 0-2000(Hz), the

hearing ability ranges between -20—50dBHL. As the rate increases past 2000 Hz, the hearing ability increases from -30 to -10 dBHL. However, when the rate hits past 4000 Hz, the hearing ability decreases to -36 dBHL. On the other hand, the right ear, the hearing ability increases gradually except when the frequency reaches 250-500 Hz where the hearing ability remains constant. However, this shows the right ear has a better listening ability.

For the second patient, the hearing ability varies between different frequencies. In the left ear, the hearing ability increases between 250-2000 Hz. However, when the frequency goes past 2000 Hz, the hearing ability starts to decrease. This illustrates that when sound frequency goes beyond 2000 Hz, the hearing ability of the left ear becomes null. However, for the left ear, the hearing ability increases. The majority of thresholds are roughly 0 dB HL for a healthy ear. Points under 0 dB HL on the scale designate louder threshold degrees while those above, identified in negative decibels with regards to the zero level.

Hearing is evaluated over a range of pure tones of every ear. Frequencies change from low pitches of 250 Hz to high tones of 8, 000 Hz. Every ear is checked at octave intervals from 250-8, 000 Hz and then plotted on a pure-tone audiogram. The test frequency are plotted along the horizontal axis while that of the thresholds of hearing plotted on the vertical axis that is in dB HL. It generally ranges from negative 10 to

In conclusion, audiometry is a crucial technique for determining the hearing ability of patients. From the data recorded on the audiogram, it is clearly evidenced that the right and left ear have different hearing abilities. However, the hearing ability of the two patients differ on different ears. In both cases, the left ears give a gradual increase in hearing ability while for

the right ears, their graphs are irregular depending on frequency. This indicates that left ears are sensitive to different sound frequencies as compared to the right ears. At frequencies above 4000 Hz for both cases, the hearing ability decreases to -36 dB HL indicating that the higher the frequency, the lower the hearing ability of a patient or person. It is therefore clearly evidence that at frequencies above 4000 Hz, the hearing ability will decrease of become null to all human despite any interference like noise.

References

Popp, A. J., Deshaies, E. M., & American Association of Neurological Surgeons. (2008). A guide to the primary care of neurological disorders. Rolling Meadows, Ill: American Association of Neurological Surgeons.