

Audiometry - lab report example

[Science](#), [Physics](#)



Audiometry

Audiometry Introduction The technique and the strategy used to identify and examine the nature of loss in hearing as well as determination of the hearing threshold. This technique is normally used in the health facilities where the responses of the patients are recorded. Different approaches and different methods that are used in the achievement of the audiometry. The audiometry technique, the testing of the ears is done separately. In the conduction of air and bone, sound is applied to one ear, the skull bone is important in stimulating the cochlea. Cross hearing occurs when the sound applied in one ear is adequate to for the stimulation of the second ear. The conduction testing of the air presents stimuli to both ears but independently using some special earphones. The stimuli is reduced while going from the test ear to the cochlea of the others ear. This is energy loss is known as the interaural attenuation which ranges between 45 – 80 dB.

However, stimulation occurs to the cochlea in both ears. As a result, cross hearing is a situation to consider more in the conduction of bone than in the conduction of air (Yoon et. al 469). The mastoid process of the proper ear is used to transmit pure tones by placing vibrator bone over it. The results of the experiment may be determined by the placement of the vibrator as well as the pressure. Technical factors and distortion may cause may limit the output of the audiometer to about 80 dB. The non-test ear should always be eliminated from the procedure whenever the cross hearing is suspected. In order to remove the non-test ear from the procedure in case of any suspected cross hearing, is to mask by delivering noise to the non-test ear (Yoon et. al 469). The loudness of the masking procedure should be able to

prevent the tone reaching the non-test ear and stimulating it.

Objectives

This experiment aims at determining the threshold hearing over a variation of frequencies. The experiment may test the bone conduction also known as the vibrator as well as the air conduction or the loudspeaker. But the audiometer can only test the air conduction also known as the loudspeaker.

Instruments and Materials

Audiometer model D 12 machine - this device was used to perform the entire experiment and deliver the results for recorded.

An audiometry chart - The chart was used after the results were recorded.

The device was used to plot the chart graphs for the results of the experiment. .

Methodology

The procedure of performing the experiment was the same for two different partners. The first thing was to check and confirm that the connection of the audiometer and the headphones was not loose. The experiment was conducted in a silent laboratory. My partner put on the headphones while I adjusted the volume of the audiometer over the required frequencies. The hearing threshold was determined for every frequency. The button was used to interfere with the tone while the intensity was being increased slowly. The hearing threshold or the level of hearing was recorded with respect to their frequencies. The results were plotted in a graph using the audiometry chart.

Results and Discussion

The results obtained from the experiment were plotted in an audiometry chart. The graphs of hearing level against the set frequencies.

Figure 1: Audiometry chart for my hearing results.

Figure 2: Audiometry chart for my partners hearing threshold.

Form the two charts, it is clear that the level of hearing in figure one which represents my hearing ability is higher than in figure 2 of my partners hearing level. Evidently, the sensitivity of my ears is higher than that of my partner.

Conclusion

To conclude, the level of hearing of people is different and so is their sensitivity. The experiment aimed to determine the threshold hearing over different frequencies. Clearly, the variation of threshold depends on the size of frequency. The hearing level of the frequencies was determined for two different people and the results plotted and analyzed to meet the objective of this experiment. The objective of the experiment was accomplished since the hearing level was determined for different frequencies.

Work Cited

Yoon, Y. S., Allen, J. B., & Gooler, D. M. (2012). Relationship between consonant recognition in noise and hearing threshold. *Journal of Speech, Language, and Hearing Research*, 55(2), 460-473.