OPEN ACCESS Freely available online

Journal of Phonetics & Audiology

Perspective

Diagnosis of Hearing Impairment by Pure Tone Audiometry Test

Johnson Patrick*

Department of Audiology, Valdosta State University, Georgia, United States

DESCRIPTION

Audiometry is a branch of audiology and the science of measuring hearing acuity for variations in sound intensity and pitch and for tonal purity, involving thresholds and differing frequencies. Most commonly used test in Audiology is pure tone audiometry.

Pure tone audiometry test

The primary hearing test used to determine a person's hearing threshold levels is pure-tone audiometry. It allows for the determination of the degree, type, and configuration of a hearing loss and serves as a foundation for diagnosis and management. Due to its reliance on patients' reactions to pure tone stimuli, pure-tone audiometry is an irrational, behavioral method of determining a hearing threshold. As a result, only adults and kids old enough to cooperate with the testing technique are subjected to pure-tone audiometry. Pure-tone audiometry doesn't test other components of hearing like sound localization or speech recognition, it just measures audibility thresholds.

Pure-tone audiometry has advantages over other types of hearing tests, such as Auditory Brainstem Response (ABR). The configuration of a hearing loss can be determined using pure-tone audiometry, which produces ear-specific thresholds and employs frequency-specific pure tones to provide place-specific responses. The type of loss can also be determined by the air-bone gap even though pure-tone audiometry employs both air and bone conduction audiometry.

Pure-tone audiometry has numerous therapeutic advantages, but it is not completely accurate in detecting all losses, such as "dead zones" of the cochlea and neuropathies like Auditory Processing Disorder (APD). Pure-tone audiometry is not a reliable or appropriate way to measure thresholds. To obtain hearing thresholds from populations that are unable to interact with the test, procedural modifications to the standard test procedure may be required.

Since the stimuli are typically provided through loudspeaker, sound field audiometry may be more appropriate when patients are unable to wear headphones. Although thresholds can be determined using this method, results are not ear-specific, which is a drawback. Pure tones produce standing waves in a sound field, which change the strength of the sound field and may limit the response to pure tone stimuli. As a result, it might be essential to conduct sound field testing using additional stimuli, such as warble tones.

Although pure-tone audiometry is referred to as the standard for hearing loss evaluation, it is unknown how accurate pure-tone audiometry is at classifying a person's hearing loss in terms of hearing impairment and hearing disability. The World Health Organization (WHO) defines hearing impairment as a hearing loss with thresholds higher than 25 dB in one or both ears.

There are four categories for hearing loss severity: mild, moderate, severe, and profound. However, the results of pure-tone audiometry are a fairly reliable indicator of hearing loss.

CONCLUSION

Pure-tone audiometry testing is the initial and critical measurement for subjective hearing loss. The measure provides an indication of the magnitude and configuration of the hearing loss as a function of frequency. However, little differential diagnostic information can be obtained from this description of audiometric configuration because auditory system dysfunction at various anatomic sites may result in similar patterns of loss of sensitivity. Other hearing tests have been developed for the purpose of distinguishing among the various sites of auditory dysfunction.

Correspondence to: Johnson Patrick, Department of Audiology, Valdosta State University, Georgia, United States, E-mail: Johnp@gmail.com

Received: 04-Jul-2022, Manuscript No. JPAY-22-18998; **Editor assigned:** 06-Jul-2022, Pre QC No. JPAY-22-18998 (PQ); **Reviewed:** 22-Jul-2022, QC No. JPAY-22-18998; **Revised:** 28-Jul-2022, Manuscript No. JPAY-22-18998 (R); **Published:** 05-Aug-2022, DOI: 10.35248/2471-9455.22.8.182.

Citation: Patrick J (2022) Diagnosis of Hearing Impairment by Pure Tone Audiometry Test. J Phonet Audiol.8: 182.