

# **Pure Tone Audiometry VS Otoacoustic Emission in detection / monitoring ototoxicity**

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## **Abstract**

**Introduction:** Ototoxicity is a medical term for ear poisoning (which means ear and toxicity which means poisoning), which results from exposure to drugs or chemicals that temporarily or permanently damage the outer hair cell of the cochlea of the inner ear or the vestibule-cochlear nerve which are responsible for hearing. Pure Tone Audiometry (PTA) is used for determining the hearing threshold in a specific clinical setting while Otoacoustic Emissions is the procedure used for detection of outer hair cells to detect and monitor the dysfunctions like ototoxicity.

**Objectives:** To investigate and differentiate between the accuracy and efficacy of Pure Tone Audiometry in detecting ototoxicity which can play a better role in the assessment and diagnosis of hearing dysfunction caused by ototoxic drugs.

**Method:** This review was based on papers published in several resources. Articles, books, journals. All of the studies were chosen using the inclusion criteria; The age of the individual involved in the study, exposure to ototoxicity drugs, type of evaluation performed in the study pure tone audiometry, high frequency audiometry, evoked potential (otoacoustic emissions), and the continuity of the conclusions with the data. The following database were searched from

**Results and conclusion:** Majority of analyzed articles above has shown that the otoacoustic emission is fastest in monitoring\detecting ototoxicity. The Pure tone audiometry may detect the hearing loss but this may get late for our patients. Using a high frequency audiometry may appear earlier than basic pure tone audiometry.