

Study of Retro Cochlear Pathology for finding Hearing Ability using Tone Decay Test

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Abstract

Pure tone Audiometry (PTA)-Tone Decay Test is the key hearing test used to identify hearing threshold levels of an individual, enabling determination of the degree, type and configuration of a hearing loss. The test is used to identify quickly screening for Retro Cochlear pathology. In audio logical investigations, the hearing sensitivity is tested for pure tones. The test tones of different frequencies and levels are generated and presented to the patient and hearing thresholds are determined on the basis of patient's response. Thus in this work we described the auditory system and its disorders.

Index terms— audiometer, pure tone decay.

1 I. Introduction

his work is able to 'Measure of hearing ability of persons using pure Tone Decay Test. Hearing ability differs from person to person. The human ear is most sensitive. Hearing problems increases with age as well as sound pollution. It results in temporary hearing loss. This can be reversed with proper medication or treatment. It occurs when there is difficulty with at least one part of the ear, resulting in an individual hearing some sounds or none at all. This study shows group people like senior citizens of our nearby area, Around 20 persons attended hearing ability test. Result shows that the peoples of this age group have different ear sensitivity. For this test ELKON EDA 3N3 AUDIO-METER is used to perform Tone Decay Test & results are concluded.

2 II. Methodology

Pure tone audiometry is a procedure for determination of the extent of hearing loss and the cause, i.e. conduction or sensorineural loss. The subjects hearing threshold for acoustic stimuli of different frequencies are measured. The initial level of the stimuli is selected by the audiologist.

3 a) Tone Decay Test

Of all the auditory tests designed for detection of the site of pathology in the sensorineural pathway, the tone decay test is the most commonly used, because the test can be reliably carried out on any pure tone audiometer. It has been statistically shown that pathology in the auditory nerve causes an abnormally rapid deterioration in the threshold of hearing of a tone if presented continuously to the ear. In this test, we try to quantify the deterioration in the auditory nerve. This test can be carried out with or without detecting the hearing threshold of the subject.

4 b) Overall Result for Tone Decay

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4 B) OVERALL RESULT FOR TONE DECAY

CARHART TONE DECAY	FREQUENCY			INTENSITY LEFT
	LOW	MID	HIGH	
Patient 1				
AGE=64				
YRS	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	
	500 Hz	1KHz	2kHz	70
	500 Hz	1KHz	2kHz	75
	500 Hz	1KHz	2kHz	80
	500 Hz	1KHz	2kHz	85
	500 Hz	1KHz	2kHz	90

Figure 1:

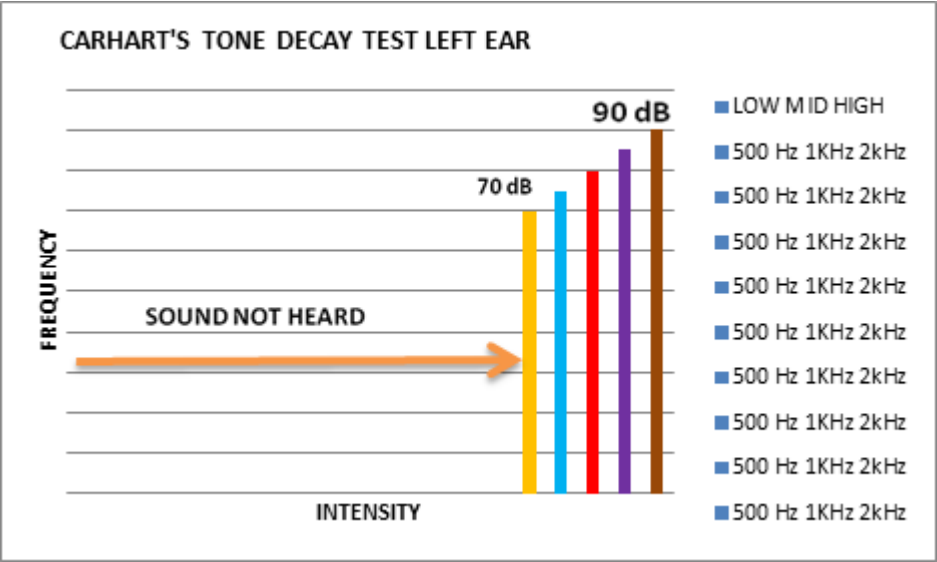


Figure 2:

IV. Conclusion
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Medical Research
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Normal Range
Mild Loss
Moderate Loss
Severe Loss
Profound Loss

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Figure 3:

38 [Gelfand] , Stanley Gelfand .