

Equinox^{2.0}

Tests



Interacoustics[®]

leading diagnostic solutions

Air Conduction Audiometry

Short description: Hearing threshold levels can be determined by air-conduction. The test signal is presented to the test subject by earphones and the test subject responds to the signal by pressing a patient response switch.

Purpose: The purpose of air-Conduction audiometry is to establish the hearing sensitivity at various frequencies. The test can specify the air conduction loss but cannot distinguish between abnormality in the conductive mechanism and sensor neural mechanism.

Bone Conduction Audiometry

Short description: In bone-conduction audiometry, the test signal is presented by a bone vibrator placed on the mastoid or forehead of the test subject. It is recommended to start hearing threshold level determinations with air-conduction measurements followed by bone-conduction measurements.

Purpose: The bone vibrator generates vibrations of the skull to stimulate the cochlea directly. The bone conduction threshold thereby provides a measure of the cochlea function regardless of the outer and middle ear function. In case of a middle ear disorder the bone conduction threshold will not be normal and only the air conduction be affected (Stach 1998).

Speech Audiometry

Short description: Speech audiometry employs speech signals and can be used to examine the processing ability and if it is affected by disorders of the middle ear, cochlea, auditory nerve, brain stem pathway, and auditory centers of the cortex. Speech audiometry is an important part of the audiological evaluation as it uses signals of everyday communication (Stach 1998).

Purpose: The goal of speech audiometry is to quantify the patient's ability to understand everyday communication. Note that there is a predictable relationship between the patients pure tone threshold and speech threshold. Speech audiometry may therefore be useful as a cross-check of the pure tone audiogram (Stach 1998).

Free Field Audiometry / Visual Reinforcement Audiometry (VRA)

Short description: Free field audiometry is a behavioral audiometric tests obtained in a sound-treated room. Through two calibrated loudspeakers sounds are presented to a patient (mostly children seated on a parent's lap or in a chair). In visual reinforcement audiometry, the infant's eye-shift or head-turn response to the sound source is rewarded by activating a lighted mechanical toy or picture on a screen near the loudspeaker.

Purpose: The purpose of free field audiometry is to establish the hearing sensitivity at various frequencies. But note that a free field testing gives an audiogram for the better-hearing ear if an ear difference in hearing is present. Free field audiometry is also used for testing with hearing aids.

SISI

Short description: SISI (Short Increment Sensitivity Index) is designed to test the ability to recognize 1 dB increase in intensity during a series of bursts of pure tones presented 20 dB above threshold.

Purpose: The SISI test differentiates between cochlear and retrocochlear disorders. A patient with a cochlear disorder will be able to perceive the increments of 1 dB, a patient with a retrocochlear disorder will not (Stach 1998).

Weber

Short description: The Weber test distinguishes between conductive and sensorineural hearing loss by means of a tuning fork. Strike it softly and place the fork in the middle of the patients head. If the patient hears the tone better in the poorer ear the hearing loss is conductive, and the tone is heard better in the better ear the hearing loss is sensorineural at the given frequency.

High Frequency Testing (optional)

Short description: High Frequency audiometry may be helpful when monitoring patients undergoing ototoxic medical treatments or procedures and other events such as acoustic traumas.

Purpose: High Frequency audiometry may be helpful when having to do with ototoxic hearing impairments, noise induced hearing losses, and acoustic traumas as these mainly affect the high frequencies.

Multi Frequency Testing (optional)

Short description: Multi-frequency function allows additional frequency increments of up to 1/24th per octave. This provides valuable additional audiometric information concerning the patients hearing loss – especially when steep precipitous losses are present. Tinnitus evaluations also require more specific pinpointing accuracy especially when employing current Tinnitus rehabilitation therapies.

Hearing Loss Simulation (HLS) (optional)

Short description: The HLS is a valuable counseling tool for the family members of a hearing impaired client. With live voice or recorded materials played through the audiometer headset, family members can listen to the effects of their loved ones hearing loss and will begin to appreciate the difficulties associated with their impairment.

Purpose: HLS is valuable as a hearing loss in many families may result in frustrations and misunderstandings. Knowing what the hearing loss actually sounds like gives an impression of what the hearing impaired goes through every day and why they have to be extra considerate in some situations.

Master Hearing Aid (optional)

Short description: Master Hearing Aid (MHA) is a hearing aid fitting procedure consisting of three hearing aid simulating high pass filters of -6 dB, -12 dB, -18 dB per octave and a HFE filter (High Frequency Emphasis). The filters can be activated individually on both channels enabling the

audiometer to serve as a 2 channel master hearing aid.

Purpose: The MHAis addressed towards the patient and adds different filters to the hearing loss through the headphones. This gives a sense of the benefits of a hearing aid in relation to their daily life and what they have been missing before.