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Chapter 1 : A software tool for pureâ€‘tone audiometry

Pure tone audiometry (PTA) 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 and thus providing a basis for diagnosis and management.

Definition Audiometry consists of tests of function of the hearing mechanism. This includes tests of mechanical sound transmission middle ear function , neural sound transmission cochlear function , and speech discrimination ability central integration. Pure tones single frequencies are used to test air and bone conduction. These and speech testing are done with an audiometer. The audiometer is an electric instrument consisting of a pure tone generator, a bone conduction oscillator for measuring cochlear function, an attenuator for varying loudness, a microphone for speech testing, and earphones for air conduction testing. Other tests include impedance audiometry, which measures the mobility and air pressure of the middle ear system and middle ear stapedial reflexes, and auditory brainstem response ABR , which measures neural transmission time from the cochlea through the brainstem. This measurement is called threshold. The testing procedure is repeated at specific frequencies from to hertz Hz, or cycles per second for each ear, and the thresholds are recorded on a graph called an audiogram. Bone conduction testing is done by placing an oscillator on the mastoid process and measuring threshold at the same frequencies. Masking noise is sometimes used in the nontest ear to prevent its participation in the test. The audiogram is a graph depicting hearing thresholds in decibels on the ordinate and frequency in hertz on the abscissa. The symbols in Figure The zero level on the audiogram is an arbitrary sound pressure level which indicates ideal normal hearing in young adults. The right ear shows thresholds that are within normal limits for air and bone conduction. The left ear shows a mixed hearing loss. The bone conduction thresholds show a sensorineural hearing loss. Air conduction thresholds show an more The speech discrimination score is obtained using phonetically balanced, one-syllable words usually presented at 25 to 40 dB above the hearing threshold obtained from the pure-tone audiogram. Speech discrimination is usually good in purely conductive hearing losses when the presentation level is loud enough. Speech discrimination scores are variable in sensorineural losses. For impedance audiometry, a hermetic seal is obtained by inserting a probe tip in the external ear canal. This shows the movement of the middle ear system as pressure is varied. The lighter lines with a peak at 0 enclose a space that represents the range of normal middle ear system mobility and pressure. Normal tympanic membrane TM mobility and normal middle ear ME pressure. The contraction of the stapedius muscle in response to a loud sound can be measured on the impedance bridge. In the normal ear, these reflex thresholds should be seen at 70 to 90 dB above the pure-tone thresholds. At 10 to 15 dB above the reflex threshold at and Hz, the contraction of the stapedius should be sustained for at least 10 seconds. Reflex decay, or failure to sustain contraction for 10 seconds, is one of the earliest signs of retrocochlear disease. Clicks are delivered through earphones, and a computer sums the time-locked responses potentials for the first 10 msec after sound stimulation. From these responses, a display of five characteristic waves is generated at predictable latencies. This response must be reliably repeatable for an evaluation to be made. A Normal response showing five waves. The longest latency more Basic Science and Clinical Significance Conductive hearing loss may be caused by obstruction of the external ear canal e. Many conductive losses can be managed medically or surgically. A patient with sensorineural hearing loss is usually a candidate for a hearing aid. Carefully performed audiometry can make an invaluable contribution to diagnosis and management of patients with ear problems. Dizziness, hearing loss, and tinnitus: Handbook of clinical impedance audiometry. American Electromedics Corporation,

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Chapter 2 : Audiometry - Clinical Methods - NCBI Bookshelf

Pure-tone audiometry threshold diagnostic testing of both ears (interpreted as pass/fail) should be billed under Current Procedural Terminology (CPT) code (pure tone audiometry [threshold.

Hearing loss comes with age but can affect anyone. According to a study in American Family Physician , at least 25 percent of people over 50 experience hearing loss, and 50 percent of people over 80 experience it. One way to test for hearing loss is through the use of audiometry. An audiometry exam tests how well your hearing functions. It tests both the intensity and the tone of sounds, balance issues, and other issues related to the function of the inner ear. A doctor who specializes in diagnosing and treating hearing loss called an audiologist administers the test. The unit of measure for sound intensity is the decibel dB. A healthy human ear can hear quiet sounds such as whispers. These are about 20 dB. A loud sound such as a jet engine is between and dB. The tone of a sound is measured in cycles per second. The unit of measure for tone is Hertz Hz. Low bass tones measure around 50 Hz. Humans can hear tones between , Hz. Human speech generally falls in the , Hz range. An audiometry test is performed to determine how well you can hear. This may be done as part of a routine screening or in response to a noticeable loss of hearing. The common causes of hearing loss include: Sounds louder than 85 dB, such as you hear at a rock concert, can cause hearing loss after only a few hours. The cochlea is the part of the ear that translates sound vibrations into nerve impulses to be sent to the brain. Sensorineural hearing loss can also occur due to damage to the nerve that carries sound information to the brain or damage to part of the brain that processes this information. This type of hearing loss is usually permanent. It can be mild, moderate, or severe.

Chapter 3 : Pure Tone Audiometry Test - Procedure, Results Interpretation, Price

Pure-tone audiometry is the most commonly used test to measure auditory sensitivity. Pure-tone signals are delivered to the ear via air conduction and bone conduction at a variety of frequencies, and the patient responds to the sound by signaling the examiner with a button or by raising a hand.

At this range, hearing is within the standard limits. Rather the individual is normal. At this range individual with mild hearing loss can generally manage without any hearing aids. The only challenge they get is that they have difficulty in hearing softly spoken words. This one can go to an extent of affecting language development if experienced as early as childhood. Individual who suffers from this range of hearing loss may experience difficulty hearing a conversational speech. Research done has shown that this level has been linked with low self-esteem and to some extent social problem. Moderate Severe dB: Individuals with this level are more affected as they actually do not hear normal volume speech in a conversational. Furthermore, they may also suffer from a considerably decreased clarity of speech because of this hearing loss. Individuals with this level of hearing loss are the most affected as they not able to hear even loudly spoken speech. Depending on the age the hearing loss developed they may have difficulty with speech. At this level, the individual is most affected of all other levels as they do not have any ability to hear sound at any level. Common Causes of Hearing Loss Hearing loss may be caused by different things for instances exposure to loud noise, infections among others. Below Are The Diverse Causes of Each Type of Hearing Loss Sensorineural hearing loss cause includes excessive noise exposure, aging, diabetes , injury, obesity , smoking, stroke, meningitis , measles, and hypertension among others. While the conductive hearing loss is caused by infections of the middle ear resulting in pus buildup, abnormal growths, wax buildup, scarring of the eardrum, a foreign object in the ear canal amongst others. Pure Tone Air Conduction Audiometry is one of the tests that can be done. It is usually the 1st quantitative hearing test conducted on an individual to evaluate the nature and degree of hearing loss. It can be conducted on adults as well as on children above four years of age. This test focus on hearing levels at diverse frequencies at which one can only just hear a tone obtainable at the external ear canal. Test Procedures Involved Step 1: Fix audiometer to power supply ensures that the switch is on. First rate the Hz frequency and set the output switch so that the tone is presented to the better ear. At first present the sound at 30 dB HL. Raise it at the rate of 10 dB until a response is shown by the client and the limit of the audiometer is reached at that frequency. As soon as a response is got the level is dropped in 10dB steps until the client stops reacting. On the machine turn the frequency to Hz after this repeat the above 5 steps. The patient reacts each time he or she hears the signal. As shown on the pure tone audiometry graph below The location of these signs on the graph shows the softest sounds you can receive at diverse frequencies. The lower down the symbol is on the graph the more the amount of your hearing loss is at that certain frequency. Lower pitched sounds are on the left and higher pitched are on the right of the chart. For a child, it may take longer as they tend to resist the test a lot because of the fear. The price of the test various from one test the other.

Chapter 4 : Excela Health Library: Audiometry

Chapter 4 Draft 1 11/4/ NE DHHS School Health Program HEARING SCREENING: PURE TONE AUDIOMETRY QUALIFIED SCREENERS For the purposes of the school officials verifying that a qualified.

Find articles by T. Buthut Find articles by F. Plontke Find articles by S. This article is distributed under the terms of the Creative Commons Attribution 4. This article has been cited by other articles in PMC. Abstract Objective Selecting subjects for clinical trials on hearing loss therapies relies on the patient meeting the audiological inclusion criteria. Generally, many more patients are screened than actually fulfill the particular inclusion criteria. The inclusion criteria often require a calculation of pure-tone averages, selection of the most affected frequencies, and calculation of hearing loss differences. Materials and methods A software tool was developed to simplify and accelerate this inclusion procedure for investigators to estimate the possible recruitment rate during the planning phase of a clinical trial and during the actual study. This tool is Microsoft Excel-based and easy to modify to meet the particular inclusion criteria of a specific clinical trial. The tool was retrospectively evaluated on patients with acute hearing loss comparing the times for classifying automatically and manually. The study sample comprised patients with idiopathic sudden sensorineural hearing loss. Results and conclusion The age- and sex-related normative audiogram was calculated automatically by the tool and the hearing impairment was graded. The estimated recruitment rate of our sample was quickly calculated. Information about meeting the inclusion criteria was provided instantaneously. Clinical trial, Inclusion criteria, Sudden hearing loss, Software tool Patients included in clinical trials must reliably meet the respective inclusion criteria. Many clinical trials, especially for acute disorders [e. In addition, when planning clinical trials, it is necessary to make accurate recruitment estimates based on retrospective data. Primary outcomes in clinical trials on treatments of ISSHL are mainly based on average pure-tone thresholds [12 , 14 , 16 , 18 , 22]. Owing to the natural course of the disease and the biometrical aspects of the study design, the inclusion and outcome parameters are very heterogeneous [2 , 6 , 14]. The severity of hearing impairment is quantitatively graded using categories, e. When studying the effects of an intervention, it is meaningful to look at those parameters or frequencies that have been affected by the diseases. Therefore, several authors used the three most affected frequencies as primary or secondary outcome measures for evaluation of the treatment [1 , 8 , 12 , 19]. There are different options for baseline reference thresholds. However, since such an audiogram is often not available, studies have also used the unaffected contralateral ear for comparison [1 , 5 , 11 , 16 , 20 , 21] or age- and sex-related normative hearing [4 , 9]. A Microsoft Excel file was developed to provide an easy-to-use tool for classifying patients to be included in clinical trials. The tool provides an inclusion decision, based on the predefined audiological criteria. The user enters the subject-related parameters into the blue-shaded fields. If the respective inclusion criteria do not have to be used, the value has to be set to zero.

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Chapter 5 : Audiometry - Wikipedia

Pure Tone Hearing Screening in Schools - Diana Emanuel, Ph.D., CCC-A - Duration: Inventis Harp audiometer â€¢ Pure tone audiometry - Duration: INVENTIS â€¢ Audiology equipment 2, views.

What is Pure Tone Audiometry? A hearing care professional is the best provider to administer this test. To put it simply, on completion of this test, your hearing care provider will be able to tell you what degree of hearing loss you are suffering with and whether it affects one or both of your ears. Degrees of hearing loss Mild dB: People suffering with mild hearing loss can usually cope without the use of hearing aids. They may find that their hearing loss causes them to lose focus on events around them, or cause tiredness after long periods of attentive listening. There may also be some difficulty in understanding softly spoken speech. Moderate hearing loss can affect language development if experienced from childhood. This level of hearing loss has also been associated with social problems and low self-esteem. People who suffer with moderate hearing loss may have trouble hearing some conversational speech. People with this degree of hearing loss do not hear most normal-volume speech in a conversational setting. They may also suffer from slightly decreased clarity of speech as a result of their hearing loss. People with severe hearing loss will not be able to hear even loudly spoken conversation. They will almost certain have trouble with clarity of speech, depending on at what age their hearing loss developed. Inability to hear sound of any level. What does the test entail? Pure tone testing is a completely painless procedure. During the test you will be asked to sit in a sound proof room to prevent any background noise interfering with the test results. This test is the usually the first port of call for hearing care providers when they are assessing new patients. While pure tone audiometry can give a very accurate measurement of hearing loss, it cannot shed any light on the type or cause of your hearing loss, so your hearing care provider may want to run additional hearing tests.

Chapter 6 : Audiometry Screening and Interpretation - - American Family Physician

In pure tone audiometry, hearing is measured at frequencies varying from low pitches (Hz) to high pitches (Hz). This is just a part of the entire human auditory range, which extends between 20 and 20, hz.

Mechanical "acuity meters" and tuning forks[edit] For many years there were a desultory use of various devices capable of producing sounds of controlled intensity. The first types were clock-like, giving off air-borne sound to the tubes of a stethoscope; the sound distributor head had a valve which could be gradually closed. Another model used a tripped hammer to strike a metal rod and produce the testing sound; in another a tuning fork was struck. The first such measurement device for testing hearing was described by Wolke Pure tone audiometry and audiograms[edit] Following development of the induction coil in and audio transducers telephone in , a variety of audiometers were invented in United States and overseas. These early audiometers were known as induction-coil audiometers due to In , Carl E. The instrument operated on a battery and presented a tone or a click; it had an attenuator set in a scale of 40 steps. His machine became the basis of the audiometers later manufactured at Western Electric. Bunch The concept of a frequency versus sensitivity amplitude audiogram plot of human hearing sensitivity was conceived by German physicist Max Wien in The first vacuum tube implementations, November , two groups of researchers â€” K. Schwarzkopf â€” demonstrated before the Berlin Oto-logical Society two instruments designed to test hearing acuity. Both were built with vacuum tubes. Their designs were characteristic of the two basic types of electronic circuits used in most electronic audio devices for the next two decades. Neither of the two devices was developed commercially for some time, although the second was to be manufactured under the name "Otaudion. It was not until that otolaryngologist Dr. Fowler , and physicists Dr. With further technologic advances, bone conduction testing capabilities became a standard component of all Western Electric audiometers by Electrophysiologic audiometry[edit] In , Sohmer and Feinmesser were the first to publish ABRs recorded with surface electrodes in humans which showed that cochlear potentials could be obtained non-invasively. Otoacoustic audiometry[edit] In , David Kemp reported that sound energy produced by the ear could be detected in the ear canal. The first commercial system for detecting and measuring OAEs was produced in

Chapter 7 : What is Pure Tone Audiometry?

Pure tone audiometry is a behavioural hearing test that is designed to measure the severity and balance (unilateral or bilateral) of a person's hearing loss. A hearing care professional is the best provider to administer this test.

The British recommended procedure is based on international standards. The BSA-recommended procedures provide a "best practice" test protocol for professionals to follow, increasing validity and allowing standardisation of results across Britain. The British Society of Audiology. Pure Tone air and bone conduction threshold audiometry with and without masking and determination of uncomfortable loudness levels. Procedural changes to the conventional test method may be necessary with populations who are unable to cooperate with the test in order to obtain hearing thresholds. Sound field audiometry may be more suitable when patients are unable to wear earphones, as the stimuli are usually presented by loudspeaker. A disadvantage of this method is that although thresholds can be obtained, results are not ear specific. In addition, response to pure tone stimuli may be limited, because in a sound field pure tones create standing waves , which alter sound intensity within the sound field. Therefore, it may be necessary to use other stimuli, such as warble tones in sound field testing. Some environmental factors, such as ototoxic medication and noise exposure, appear to be more detrimental to high frequency sensitivity than to that of mid or low frequencies. Therefore, high frequency audiometry is an effective method of monitoring losses that are suspected to have been caused by these factors. It is also effective in detecting the auditory sensitivity changes that occur with aging. Interaural attenuation with air conduction. Interaural attenuation with bone conduction When sound is applied to one ear the contralateral cochlea can also be stimulated to varying degrees, via vibrations through the bone of the skull. When the stimuli presented to the test ear stimulates the cochlea of the non-test ear, this is known as cross hearing. Whenever it is suspected that cross hearing has occurred it is best to use masking. This is done by temporarily elevating the threshold of the non-test ear, by presenting a masking noise at a predetermined level. This prevents the non-test ear from detecting the test signal presented to the test ear. The threshold of the test ear is measured at the same time as presenting the masking noise to the non-test ear. Thus, thresholds obtained when masking has been applied, provide an accurate representation of the true hearing threshold level of the test ear. The use of insert earphones reduces the need for masking, due to the greater IA which occurs when they are used See Figure 1. When the thresholds obtained via air conduction are examined alongside those achieved with bone conduction, the configuration of the hearing loss can be determined. However, with bone conduction performed by placing a vibrator on the mastoid bone behind the ear , both cochleas are stimulated. Therefore, conventional audiometry is ear specific, with regards to both air and bone conduction audiometry, when masking is applied. PTA thresholds and hearing disability[edit] PTA is described as the gold standard for assessment of a hearing loss [12] but how accurate PTA is at classifying the hearing loss of an individual, in terms of hearing impairment and hearing disability is open to question. Hearing impairment is defined by the World Health Organization WHO as a hearing loss with thresholds higher than 25db in one or both ears. The degree of hearing loss is classified as mild, moderate, severe or profound. Hearing disability is defined by the WHO as a reduction in the ability to hear sounds in both quiet and noisy environments compared to people with normal hearing , which is caused by a hearing impairment. The findings of these studies indicate that in general, the results of PTA correspond to self-reported hearing problems i. Speech recognition threshold SRT with noise. The horizontal part of the curves is where the noise is inaudible. Thus, there is no masking effect on the SRT. The horizontal portion of the curve for the SNHL and CHL extends further than that for a normal hearing person, as the noise needs to become audible to become a problem. Thus, more noise has to be applied, to produce a masking effect. This is because at this end of the graph, the noise is very loud whether the person has a hearing loss or not. There is a transition between these two areas described. Factor A is a problem only in low noise levels, whereas Factor D is a problem when the noise level is high. Hearing impairment based on the audiogram and auditory handicap based on speech discrimination in noise data was reviewed by Reinier Plomp[who? This led to the formulation of equations, which described the consequences of a hearing loss on speech intelligibility. The results of this review

indicated that there were two factors of a hearing loss, which were involved in the effect on speech intelligibility. These factors were named Factor A and Factor D. Factor A affected speech intelligibility by attenuating the speech, whereas Factor D affected speech intelligibility by distorting the speech. For a person with a conductive hearing loss CHL in quiet, the SRT needs to be higher than for a person with normal hearing. The increase in SRT depends on the degree of hearing loss only, so Factor A reflects the audiogram of that person. In noise, the person with a CHL has the same problem as the person with normal hearing See Figure In noise, the person with a SNHL requires a better signal-to-noise ratio to achieve the same performance level, as the person with normal hearing and the person with a CHL. Therefore, there is another problem present, which is Factor D. At present, it is not known what causes Factor D. Thus, in noise the audiogram is irrelevant. It is the type of hearing loss that is important in this situation. As hearing aids at present can compensate for Factor A, but this is not the case for Factor D. This could be why hearing aids are not satisfactory for a lot of people. Audiogram The shape of the audiogram resulting from PTA audiometry gives an indication of the type of hearing loss as well as possible causes. Conductive hearing loss due to disorders of the middle ear shows as a flat increase in thresholds across the frequency range. Sensorineural hearing loss will have a contoured shape depending on the cause. Presbycusis or age-related hearing loss for example is characterized by a high frequency roll-off increase in thresholds. Other contours may indicate other causes for the hearing loss.

Chapter 8 : Audiometry: MedlinePlus Medical Encyclopedia

Audiometry provides a more precise measurement of hearing. For this test, you wear earphones attached to the audiometer. Pure tones of controlled intensity are delivered to one ear at a time.

A significant difference between the two thresholds would raise questions about the validity of the pure tone thresholds, or an exaggerated hearing loss. There are many other methods that can be used to detect exaggerated hearing loss. This test is administered by using single syllable, single words. The result is presented as a percentage score. There should be a correlation between the type and degree of hearing loss and the word recognition score WRS , but this depends on the cause of the hearing loss. Roll-over refers to distortion in words that occurs at high volumes. With rollover, WRS gets worse with louder presentations. This is usually due to a lesion in the 8th nerve. The WRS can be helpful in predicting the usefulness of a hearing aid. An increase in the WRS with amplification, suggests that a hearing aid might be useful. This is because the WRS reflects the percentage of words that one recognizes with the volume turned up. Scores are also weighted towards perception of high frequency consonants. Poor performance overestimates everyday communication impairment for patients with high frequency hearing loss. WRS also underestimates hearing problems in noise. Complex speech tests Complex speech tests are mainly used in evaluations of central auditory processing CAP. Persons with CAP may have normal pure tone thresholds, and perhaps even normal word recognition ability, but are unable to process complex speech signals. One commonly used test presents two different words to each ear simultaneously a dichotic task. Persons with normal CAP can repeat both words easily, while someone with a temporal lobe problem might be unable to repeat the word presented to the ear contralateral to the lesion. This results resembles the results of simultaneous visual or sensory stimuli in persons with parietal lobe disturbances. Calibration of Audiometers Practically, hearing measurements are meaningless unless your stimuli are calibrated. Every single part of the system that you use should be calibrated - -the electrical device that produces the sound, and the headphones or speakers that deliver the sound. Practically, electrical devices such as digital audiometers or CD players will never drift in frequency or volume. Once their intensity is checked, formal electrical calibrations are more likely to cause trouble i. On the other hand, mechanical devices such as headphones, and insert headphones in particular nearly always break down over time. They need to be checked everyday with a "sound check", and formally every 3 months. Calibration is especially a problem for smartphone audiograms. Audiogram for a Patient With an Acoustic Neuroma This figure illustrates an audiogram of a person with a tumor called an acoustic neuroma. Hearing is worse for the left ear squares than the right ear circles although both ears are at least partially outside the normal range. Usually Red is used for the right, and Blue for the left. Right -- this makes it easy to remember. This is a sensorineural neural more precisely hearing loss. Mild age-related sensory hearing loss Mild age-related hearing loss This figure illustrates a person with a mild age-related sensorineural hearing loss. This is not a severe hearing loss and ordinarily very little benefit would be obtained from a hearing aid. Hearing testing research is not very active. The basics were worked out many years ago. We think the most promising avenue is exploring more home testing -- we think smartphones with appropriate software, could hugely improve accessibility of hearing testing. Mahomed-Asmail et al, Smartphones "apps" are already pretty good. Last saved on May 13,

Chapter 9 : Aarktica - Pure Tone Audiometry - calendrierdelascience.com Music

Technique. Pure tone audiometric air conduction testing is performed by presenting a pure tone to the ear through an earphone and measuring the lowest intensity in decibels (dB) at which this tone is perceived 50% of the time.

URL of this page: Sounds vary, based on their loudness intensity and the speed of sound wave vibrations tone. Hearing occurs when sound waves stimulate the nerves of the inner ear. The sound then travels along nerve pathways to the brain. Sound waves can travel to the inner ear through the ear canal, eardrum, and bones of the middle ear air conduction. They can also pass through the bones around and behind the ear bone conduction. A whisper is about 20 dB. Loud music some concerts is around 80 to dB. A jet engine is about to dB. Sounds greater than 85 dB can cause hearing loss after a few hours. Louder sounds can cause immediate pain, and hearing loss can develop in a very short time. Low bass tones range around 50 to 60 Hz. Shrill, high-pitched tones range around 10, Hz or higher. The normal range of human hearing is about 20 to 20, Hz. Some animals can hear up to 50, Hz. Human speech is usually to 3, Hz. How the Test is Performed Your health care provider may test your hearing with simple tests that can be done in the office. These may include completing a questionnaire and listening to whispered voices, tuning forks, or tones from an ear examination scope. A specialized tuning fork test can help determine the type of hearing loss. The tuning fork is tapped and held in the air on each side of the head to test the ability to hear by air conduction. It is tapped and placed against the bone behind each ear mastoid bone to test bone conduction. A formal hearing testing can give a more exact measure of hearing. Several tests may be done: Pure tone testing audiogram -- For this test, you wear earphones attached to the audiometer. Pure tones are delivered to one ear at a time. You are asked to signal when you hear a sound. The minimum volume required to hear each tone is graphed. A device called a bone oscillator is placed against the mastoid bone to test bone conduction. Speech audiometry -- This tests your ability to detect and repeat spoken words at different volumes heard through a head set. Immittance audiometry -- This test measures the function of the ear drum and the flow of sound through the middle ear. A probe is inserted into the ear and air is pumped through it to change the pressure within the ear as tones are produced. A microphone monitors how well sound is conducted within the ear under different pressures. How to Prepare for the Test No special steps are needed. How the Test will Feel There is no discomfort. The length of time varies. An initial screening may take about 5 to 10 minutes. Detailed audiometry may take about 1 hour. Why the Test is Performed This test can detect hearing loss at an early stage. It may also be used when you have hearing problems from any cause. Normal Results The ability to hear a whisper, normal speech, and a ticking watch is normal. The ability to hear a tuning fork through air and bone is normal. In detailed audiometry, hearing is normal if you can hear tones from to 8, Hz at 25 dB or lower. What Abnormal Results Mean There are many kinds and degrees of hearing loss. In some types, you only lose the ability to hear high or low tones, or you lose only air or bone conduction. The inability to hear pure tones below 25 dB indicates some hearing loss. The amount and type of hearing loss may give clues to the cause, and chances of recovering your hearing. The following conditions may affect test results: