



Common Clinic Test Discrepancies

Historically and with regular frequency, T K Group observes difficulties with audiograms conducted at ENT (Ear, Nose, and Throat) and Audiology clinics. The most common testing discrepancies are:

Failure To Test 3000 and 6000 Hz: Many clinic providers fail to provide hearing threshold levels at 3000 and 6000 Hz. This oversight is understandable since historically, clinically-based ENT (Ear, Nose, and Throat) and Audiologist practices obtained hearing threshold levels at the octave intervals (i.e. 500, 1000, 2000, 4000, and 8000 Hz) only.

Secondly, many practitioners are not familiar with OSHA test requirements necessitating threshold determination at 3000 Hz, vital to making 10 dB and Recordable shift analyses.

Omission of 8000 Hz: OSHA does not require testing at 8000 Hz, however T K Group does. Without 8000 Hz documentation, a determination of noise-induced versus non-noise induced etiology is very difficult and in some cases impossible; additionally, 8K omissions provide less defense against cases that in reality are not consistent with noise induced etiology but cannot be proven to the contrary due to the historical exclusion of 8000 Hz.

Masking: Use of masking in clinical test batteries is a common clinical procedure whereby “narrow band” noise is introduced to the “non-test” ear when determining threshold in the “test” ear. Masking is performed clinically when there is a significant difference in thresholds between ears. Given a sufficiently intense test (tone) signal, that signal may “cross over” by bone-conduction to the non-test ear and fool both the patient and the clinician into thinking that the “test” ear was the ear responding to the signal. By providing masking to the non-test ear, that ear is effectively removed from test participation so that valid thresholds may be obtained on the test ear.

Certain clinical circumstances may preclude the need to record air conduction thresholds. However, “masked” hearing threshold levels are of little use and impractical in occupational surveillance applications.

Bone Conduction: When circumstances warrant, recording of bone conduction thresholds may exclude the need to record air conduction thresholds, clinically; however, use of bone conduction thresholds is not allowed in OSHA analyses.

Screening Audiometers: Practitioners often use a portable or handheld screening device that presents test signals at one intensity level for all test frequencies. A telltale sign of a screening test may be apparent when all test frequencies possess the same hearing threshold level (e.g. 20, 20, 20, 20, 20, 20, 20, 20). A screening evaluation is not a valid, reliable, or accepted hearing test for OSHA compliance.



The Lazy, Untrained, or Corrupt Technician: Yes, we see these too. While often not dissimilar in appearance to the aforementioned use of screening equipment (e.g. 15 15 15 15 15 15 15/15 15 15 15 15 15), experience and investigational savvy allows us to differentiate between fabricated data “strings” having identical threshold values for one or both ears and use of screening equipment. Barring use of screening equipment, identical data strings point to purposeful data fabrication, invalid manual threshold determination techniques, and/or inadequate (training) preparation. When setting up a clinic audiogram, please make certain to request that a pure tone air conduction test be administered to include 500, 1000, 2000, 3000, 4000, 6000, and 8000 Hz, bilaterally.

The attending clinician most certainly retains the right and remains within accepted levels of professional efficacy to document masked air conduction, unmasked bone, and masked bone conduction thresholds; however, T K Group can only process pure tone air conduction threshold measures.

Authored by: Robert Williams, Au.D. | Director Audiology | T K Group, Inc.