

THRESHOLD LEVEL  
20  
30  
40  
50  
60

# The THRESHOLD

A T K GROUP PUBLICATION DEVOTED TO OCCUPATIONAL HEARING LOSS PREVENTION AND PROGRAM MANAGEMENT

## On The Inside

Medical Referral  
Payment Obligations  
**Page 2**

Continuous Versus  
Pulsed Mode Tone  
Presentation  
**Page 3**

Tinnitus  
**Page 4**



We are conducting a Certification/Re-certification class January 4, 5, and 6 2011 in Cherry Valley, IL. If you wish to attend, please contact Beth Minnick at (815) 332.3460

## Baseline Revisions Due To Rehire

In times of economic downturn, employee turnover is heavy. We are seeing a great number of employee terminations and subsequent rehires. When certain conditions are met, a rehired employee may have their baseline revised to the test conducted after rehire.

While OSHA does not define a minimal termination period before a baseline may be revised, T K Group requires a lapsed time (i.e. the time expired after termination) of at least six months. The reviewing Audiologist reserves the right to disallow any revision request.

T K Group has a *Baseline Revision Request Form* posted on our website at the following address: <http://www.tkontheweb.com/tkforms.htm>

Baseline revision for rehire should not be confused with change in corporate ownership. OSHA is very clear to state that baselines shall not be revised because of change in ownership ( see Whether employers have the option to establish new baseline audiograms when business ownership changes, but medical records are maintained for 30 years. [12/05/2008] ).

The OSHA Interpretation is as follows:

December 5, 2008

Mr. Danny Herrera  
Industrial Hygienist  
INEOS NOVA, LLC  
12222 Port Road  
Pasadena, TX 77507

Dear Mr. Herrera:

Thank you for your letter of May 17, 2004 letter to the Occupational Safety and Health Administration (OSHA) regarding the requirements for baseline audiograms under the Occupational Noise standard, 29 CFR 1910.95. (continued Page 4 )

## Payment Obligations For Medical Referrals

Upon professional review of test data by T K Group, an employee may receive a Medical Referral Recommendation and/or a Medical Referral Advisory. Medical Referral Recommendations are generated by computer analysis when certain audiometric criterion are met. Medical Referral *Advisories* are generated by the reviewing Audiologist when a potentially emergent condition is observed.

While some corporations opt to cover the cost of referral (physician) consultations, there is no requirement to do so unless a physician determines that a condition is directly related to employment.

Medical Referral recipients do not require a retest unless there is a concurrent 10 dB STS. The compliance requirement regarding Medical Referrals is that the recipient be notified of the referral status in writing; the recipient may, on their own accord, choose to seek physician consultation.

If your facility is mobile tested by T K Group and on-board Employee Notification Letters are provided, letters contain applicable (Medical) referral notification and thus your referral compliance requirement is satisfied.

If you opt not to receive on-board letters, be certain that you distribute the Employee Notification Letters provided to you in the final report to all persons with referral status.

Since OSHA does not mandate a referral criterion, T K Group adopts the American Association of Otolaryngology (AAO) Otologic Referral Criteria for use in Occupational Hearing Loss Prevention Programs:

(For Baseline [first test] Audiograms)

An averaged hearing level at 500, 1000, 2000, and 3000 Hz greater than 25 dB, in either ear.

A difference in average hearing level between the better and poorer ears of more than 15 dB at 5000, 1000, and 2000 Hz.

A difference in average hearing level between the better and poorer ears of more than 30 dB at 3000, 4000, and 6000 Hz.

(For Annual Audiograms)

A change for the worse in average hearing level, in either ear, compared to the baseline audiogram of more than 15 dB at 500, 1000, and 2000 Hz.

A change for the worse in average hearing level, in either ear, compared to the baseline audiogram of more than 20 dB at 3000, 4000, and 6000 Hz.

## Continuous Versus Pulsed Mode Tone Presentation

Most, if not all, audiometers have two signal presentation modes: continuous and pulsed. The continuous mode emits a continuous tone while the pulsed mode emits a Beep-Beep-Beep with silence of a certain duration between the beeps. If you are conducting a manual test, the continuous tone mode lasts for as long as you depress the tone presenter.

As a rule, it is best to conduct hearing tests using pulsed tone presentation. If you are testing in an area with any noise (albeit still within compliance), the pulsed mode allows the examinee to better differentiate the presence of the test signal at or near their particular threshold level. Another reason to use the pulsed mode is that examinees with Tinnitus (constant ringing) can better distinguish between the tone presentation and their Tinnitus.

When conducting tests in the automatic mode, tone presentations usually last 200 milliseconds in duration. When in the pulsed mode, there are usually three beeps of that duration with silence of equal duration in between.

If you currently use the continuous mode, try the pulsed mode; you will likely see better and more consistent results.



(Courtesy Monitor Instruments)

If you are new to T K Group, or if you are simply interested in receiving email notification of new newsletter postings, please email [robertwilliams@tkontheweb.com](mailto:robertwilliams@tkontheweb.com) and type "Add to Newsletter" in the subject line.

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The Threshold is written by Robert Williams, A.u.D.

# Tinnitus

Tinnitus, commonly referred to as “ringing in the ears”, is prevalent in 20% of any given population; 3 to 7% of those with tinnitus seek clinical intervention due to its debilitating effect on their lifestyle.

Tinnitus may also be accompanied by two additional conditions: hyperacusis and misophonia. Hyperacusis is a condition characterized by unusually strong behavioral responses to sound while misophonia is an extreme dislike of sound. Collectively, hyperacusis and misophonia make for a condition called Decreased Sound Tolerance.

Tinnitus may point to any number of potential underlying pathological conditions that must always be investigated. Tinnitus can be generated by certain anatomical structures in and/or adjacent to the ear emitting biological noise called somatosounds; vascular blood flow patterns, tumors, or benign conditions such as patent (open) eustachian tubes may generate somatosounds. However in a great majority of cases, no identifiable pathology can be determined. This class of tinnitus is often called a “phantom auditory perception”; phantom tinnitus refers to an event that cannot be attributed to the presence of any physical acoustic stimulus.

While the cochlea plays a role in phantom auditory perception, a prominent theory called the Neurophysiological Model for Tinnitus suggests that clinically significant tinnitus primarily involves ascending (higher level) auditory and central nervous system centers and that the inner ear is involved only secondarily. Generally, the model suggests that persons significantly affected by tinnitus at some point in time develop severe negative emotions associated with the tinnitus signal; in turn, a physiological-not psychological chain of events involving the brain’s limbic and autonomic nervous systems is activated as a defense mechanism to the signal.

Tinnitus Retraining Therapy has seen success in minimizing, if not completely eradicating, debilitating tinnitus cases. Extensive therapy protocols serve to retrain the brain’s physiological response to the troublesome tinnitus signals. This is possible due to the brain’s plasticity; humans are able to alter neuronal relays within the brain and reverse negative physiological reactions to the eliciting stimulus.

There remain many fallacies associated with tinnitus and its treatment. No single drug has been proven to systematically induce tinnitus in double-blind studies; however, a certain class of drug (benzodiazepines, i.e. Xanax, Valium, Lorazepam, etc.) may induce transient tinnitus and hyperacusis upon cessation. Caffeine can exacerbate existing tinnitus, but there is no scientific basis to eliminate “normal” caffeine intake. Aspirin does not induce or exacerbate tinnitus in small doses; one to five aspirins a day has no clinically significant influence on tinnitus.

## Baseline Revisions Due To Rehire (continued)

Your questions have been restated below, followed by OSHA's response. This letter constitutes OSHA's interpretation only of the requirements discussed and may not be applicable to any question not delineated within your original correspondence.

Question 1: What is OSHA's position regarding audiometric baseline revisions in rehire situations?

Answer: As a general rule, the baseline audiogram that is first in time will provide the most accurate characterization of the employee's hearing acuity against which to compare subsequent hearing acuity. Therefore, in a rehire situation, if the employer still has the original baseline audiogram, that audiogram may be considered to be the baseline since in fact it was obtained within 6 months (or one year in the case of audiograms taken in a mobile test van) of the employee's first noise exposure. Subsequent audiograms would be compared to that audiogram; if a STS appears, then the subsequent audiogram would become the revised baseline. The standard only requires employers to keep the audiometric test records for their length of employment. If the previous audiograms were not retained, then the first valid audiogram obtained from the employee after rehire would become the baseline audiogram.

Question 2: If rehire baselines are allowed, is there a specific time window required between termination and rehire?

Answer: No, there is no specific time window. If the employer still has the baseline audiogram from the initial period of employment and it is a valid baseline, it may still serve as the baseline.

Question 3: Are employers allowed to establish their own policy regarding this issue?

Answer: Although not required, employers may use the original baseline audiogram for rehired employees provided that: (1) the employer has retained the original baseline; and (2) the original baseline was valid.

Question 4: Should the decision of whether or not a rehire baseline is appropriate be left to the discretion of the professional reviewer?

Answer: The decision on whether or not a rehire baseline is appropriate should be made by the audiologist, otolaryngologist, or physician who is evaluating the audiograms.

Thank you for your interest in occupational safety and health. We hope you find this information helpful. OSHA requirements are set by statute, standards, and regulations. Our interpretation letters explain these requirements and how they apply to particular circumstances, but they cannot create additional employer obligations. This letter constitutes OSHA's interpretation of the requirements discussed. Note that our enforcement guidance may be affected by changes to OSHA rules. Also, from time to time we update our guidance in response to new information. To keep apprised of such developments, you can consult OSHA's website at <http://www.osha.gov>. If you have any further questions, please feel free to contact the Office of Health Enforcement at (202) 693-2190.

Sincerely,

Richard E. Fairfax, Director  
Directorate of Enforcement Programs