OSHA – Recordable Hearing Loss:

What's New and What's Not

Pierce M. Sherrill, D.O., FAOASM
Aurora Medical Group
Green Bay, Wisconsin

What's New?

- 29 CFR 1904.10 final rules are intended to be:
  - More Sensitive
  - More Specific
  - More Flexible
  - i.e., the rules hope to identify more true work-related hearing loss, and exclude more false-positives.

Which Hearing Losses Are Recordable?

- The previous rule required the recording of a Standard Threshold Shift (STS) of 25 dB loss from baseline audiogram, averaged at 2000, 3000 and 4000Hz.
- Audiometric exams administered on or after January 1, 2003 are subject to a different standard:

Which Hearing Losses Are Recordable?

- In order to be recordable in the OSHA 300 log, both of the following conditions must be met:
  - The employee has experienced an STS of ☞10 dB☜ or greater from the most current baseline (averaged at 2000, 3000, and 4000 Hz, in one or both ears); *AND*
  - The employee's total hearing level is 25 dB or more above audiometric zero, averaged at 2000, 3000, and 4000 Hz, in the same ear(s) as the STS.

Example 1 - Employee A

	2KHz	3KHz	4KHZ
Current	10	15	15
Baseline	5	10	5
Threshold Shift	5	5	10

Avg. Shift = (5+5+10) ÷ 3 = 6.7 dB

Average shift is less than 10 dB. This is not recordable.

Example 2 – Employee B

	2KHz	3KHz	4KHZ
Current	10	20	20
Baseline	5	10	5
Threshold Shift	5	10	15

Avg. Shift = (5 + 10 + 15) ÷ 3 = 10 dB

This employee has experienced an STS of 10 dB. Now look at the Total Hearing Level.

Example 2 – Employee B

	2KHz	3KHz	4KHZ
Current	10	20	20

Avg. Total Hearing Level
= (10 + 20 + 20) ÷ 3 = 16.7 dB

This case is not recordable since both conditions have not been met. This employee has had an STS, but average Total Hearing Level is less than 25 dB above audiometric zero.

Example 3 – Employee C

	2KHz	3KHz	4KHZ
Current	15	25	35
Baseline	5	10	5
Threshold Shift	10	15	30

Avg. Shift = (10+15+30) ÷ 3 = 18.3 db

Avg. Shift > 10, so this employee has experienced an STS. Now look at the Total Hearing Level.

Example 3 – Employee C

	2KHz	3KHz	4KHZ
Current	15	25	35

Avg. Total Hearing Level =
(15+25+35) ÷ 3 = 25dB.

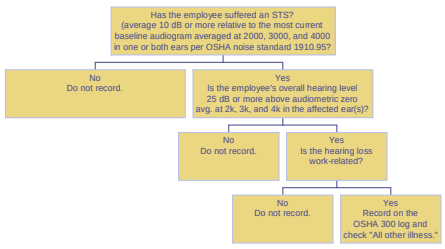
This case is recordable. The employee has both an STS ≥ 10 dB and an avg. Total Hearing Level ≥ 25 dB above audiometric zero.

Example 3 – Employee C

Once an STS has become recordable, it becomes the new baseline against which future audiograms are measured:

	2KHz	3KHz	4KHZ
New Baseline:	15	25	35
Previous:	5	10	5

Recordability Algorithm



OSHA – Recordable Hearing Loss

- STS is now defined as ≥ 10 dB in one or both ears, averaged at 2, 3 and 4 kHz, above the current baseline
- BUT the STS is only recordable if:
  - the affected ear(s) have a Total Hearing Loss ≥ 25 dB above audiometric zero (not the most current baseline); AND
  - The hearing loss is work-related.

Is The Hearing Loss Work Related?

- There is no automatic presumption of work-relatedness. However:
  - "... hearing loss is presumed to be work-related if the employee is exposed to noise in the workplace at an 8-hour time-weighted average of 85 dBA or greater, or to a total noise dose of 50 percent, as defined in 29 CFR 1910.95. For hearing loss cases where the employee is not exposed to this level of noise, you must use the rules in 1904.5 to determine if the hearing loss is work-related."

Federal Register 66:13, January 19, 2001 pg. 6129

Is The Hearing Loss Work Related?

This must be determined on a case-by-case basis.

- Employers may seek a physician's advice on work-relatedness.
- If the employer has a doctor's opinion that the loss is not work-related, then it is not recordable.

Example 4 – Employee D

Right ear:	2KHz	3KHz	4KHZ
Current	45	55	55
Baseline	5	10	5
Threshold Shift	40	45	50

STS >10; THL >25. Referred to ENT for further evaluation. Is this recordable?

Example 4 – Employee D

- "Employee D was found to have a cholesteatoma in the right ear, which was surgically repaired. The cholesteatoma is responsible for his hearing loss. This loss is not work-related."

-- O. Larry Gologist, MD

This hearing loss is NOT recordable.

Example 4 – Employee D

Right ear:	2KHz	3KHz	4KHZ
Pre-Op	45	55	55
Post-Op	30	35	35

The post-op audiogram is now the revised baseline, and should be used for future monitoring.

Remember:
Baselines are Adjustable

- "If the employee has never previously experienced a recordable hearing loss, you must compare the employee's current audiogram with that employee's baseline audiogram. If the employee has previously experienced a recordable hearing loss, you must compare the employee's current audiogram with the employee's revised baseline audiogram (*the audiogram reflecting the employee's previous recordable hearing loss case.*)"

Federal Register 66:13, January 19, 2001 pg. 6129

Baselines are Adjustable

i.e., when you record a work-related hearing loss, the audiogram reflecting that recordable hearing loss becomes the revised baseline for future monitoring.

Baselines are Adjustable

"Revised Baseline." An annual audiogram may be substituted for the baseline audiogram when, in the judgment of the audiologist, otolaryngologist or physician who is evaluating the audiogram:

- The standard threshold shift revealed by the audiogram is persistent; or
- The hearing threshold shown in the annual audiogram indicates significant improvement over the baseline audiogram.

29CFR 1910.95 (g) (9) (i-ii)

Not Only That-

Hearing Losses Can Be Adjusted for Age

- "... when comparing audiogram results, you may adjust the results for the employee's age when the audiogram was taken using Tables F-1 or F-2, as appropriate, in Appendix F of 29 CFR 1910.95."

Federal Register 66:13, January 19, 2001 pg. 6129

Hearing Losses Can Be Adjusted for Age

To adjust for age:

- Use the tables in 29 CFR 1910.95, Appendix F, to find the age-correction value for the employee's age at the most current audiogram;
- Do the same for the employee's age at the baseline audiogram;
- Subtract "baseline correction value" from "current correction value" to find the portion of hearing loss that may be attributed to aging.

Hearing Losses Can Be Adjusted for Age

Remember "Employee C?"

	2KHz	3KHz	4KHZ
Current (age 41)	15	25	35
Baseline (age 25)	5	10	5

From 29 CFR 1910.95, Appendix F, Table F-1 (Age Correction: Males)

Age 41	6	10	14
Age 25	3	5	7
Difference	3	5	7

Hearing Losses Can Be Adjusted for Age

Total Hearing Loss = 25 dB
Age Adjustment = (3+5+7)÷3 = 5 dB
Age-Adjusted Hearing Loss: 25-5 = 20 dB

Original STS = 18.6 dB
Adjusted THL = 20 dB
By adjusting for age, This case is no longer reportable.

When In Doubt, Repeat the Test

- If hearing is retested within 30 calendar days of the original test, and it DOES NOT confirm the STS, then the original test is not recordable as a work-related hearing loss.

When In Doubt, Repeat the Test

- "... if you retest the employee's hearing within 30 days of the first test, and the retest does not confirm the STS, you are not required to record the hearing loss on the OSHA 300 log. If the retest confirms the STS, you must record the hearing loss illness within seven (7) calendar days of the retest."

Federal Register 66:13, Jan 19, 2001 p. 6129

When In Doubt, Repeat the Test

- The new standard permits recorded entries to be lined-out or erased if subsequent audiometric testing does not confirm the STS.

When In Doubt, Repeat the Test

- "If subsequent audiometric testing indicates that a Standard Threshold Shift (STS) is not persistent, you may erase or line-out the recorded entry."

29 CFR 1910.95(m)(2)

Note: The "30-Day Rule" does not appear to apply here.

When In Doubt, Repeat the Test

"While the rule does not require the employer to maintain documentation concerning the removal of cases, Section 1910.95(m)(2) of the noise standard requires the employer to keep records of all audiometric tests that are performed. Therefore, those records will be available, should they be needed for future reference."

Frank Frodyma, Acting Director,
OSHA Directorate of Evaluation and Analysis:
letter to Carl O. Sail dated March 4, 2004

So What's NOT New?

- The noise standard remains the same.
- Employees covered by the noise standard remain the same.
- When employers detect ANY work-related STS in an employee, they are required to take all the follow-up actions required by the noise standard.

So What's NOT New?

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  - 29 CFR 1910.95, "Occupational Noise Exposure."

So What's NOT New?

- The employees covered by the noise standard remains the same.
  - "... whenever employee noise exposures equal or exceed an 8-hour time-weighted average sound level (TWA) of 85 decibels measured on the A scale (slow response) or, equivalently, a dose of fifty percent."

29 CFR 1910.95(c)(1)

So What's NOT New?

- When employers detect ANY work-related STS in an employee, they are required to take all the follow-up actions required by the noise standard.
  - OSHA Technical Manual, Section III, Chapter 5, "Noise and Hearing Conservation," provides guidance.
  - See http://www.osha.gov/dts/osta/noise/hcp/index.html

Prevention of Hearing Loss

- Interventions include
  - Engineering and Administrative Controls
  - Hearing Conservation Program
- Interestingly:
  - "... some OSHA standards, such as standards covering bloodborne pathogens and noise, do not have medical removal provisions."

Federal Register 66:12, January 19, 2001, pg. 6129

Thank You

- Any Questions?