SCOR

SAFETY COMPLIANCE FOR OSHA REGULATIONS

A Cottingham & Butler Program

Hearing Conservation

PRESENTED BY

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LEARNING OBJECTIVE

Provide general guidelines on how to develop and implement an effective hearing conservation program.

OVERVIEW

- Effects of noise on hearing
- Conducting a sound level survey
- Determine high-noise generators
- Hazard mitigation
- Audiometric testing
- Standard threshold-shifts
- Recordkeeping
- Training requirements

POLL QUESTION #1

When it comes to a hearing conservation program, my company:

(A) Has a hearing conservation program with annual testing

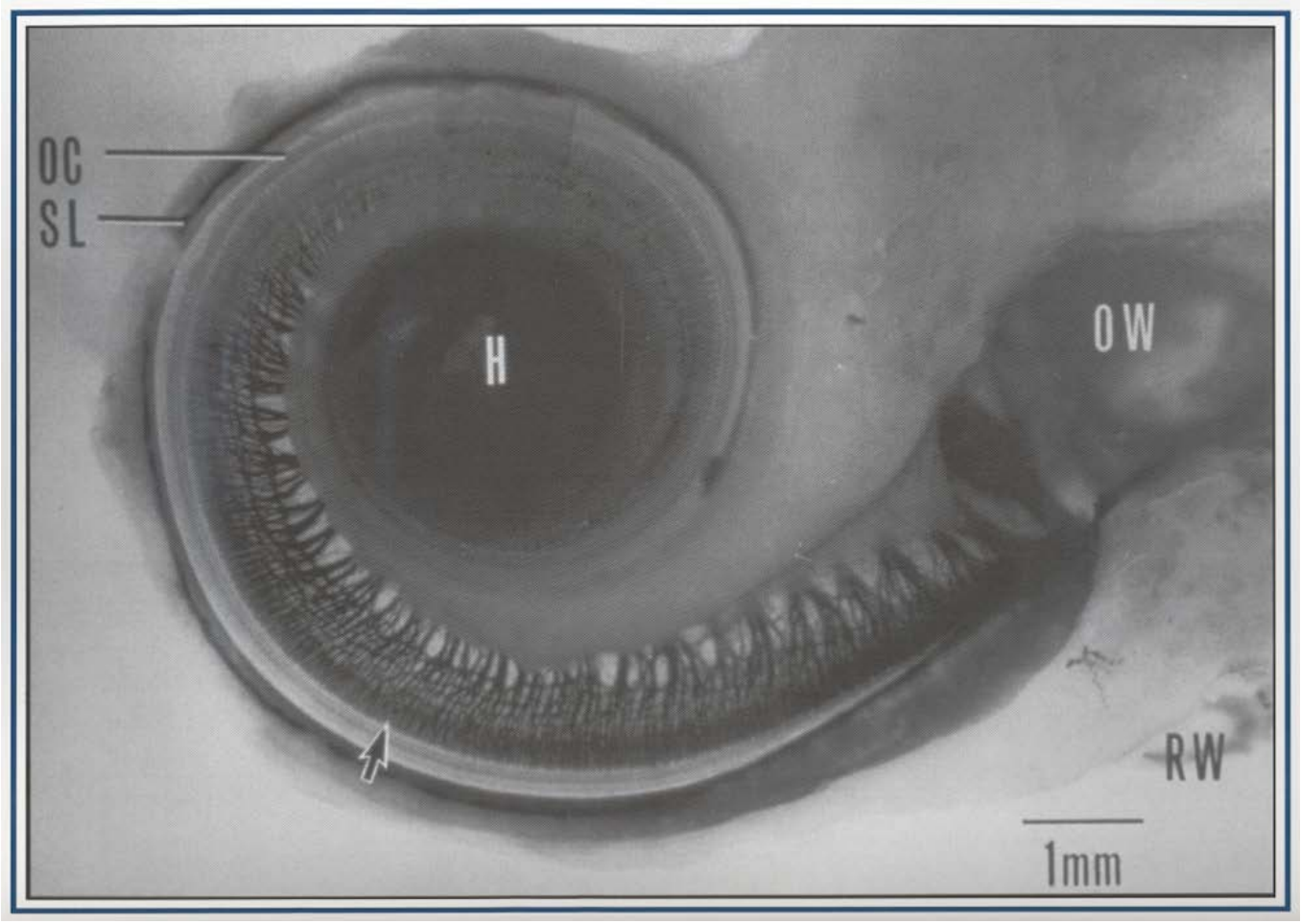
(B) Is under the exposure limit and offers hearing protection

(C) Is under 85dB

(D) I think we're okay, but I don't have data

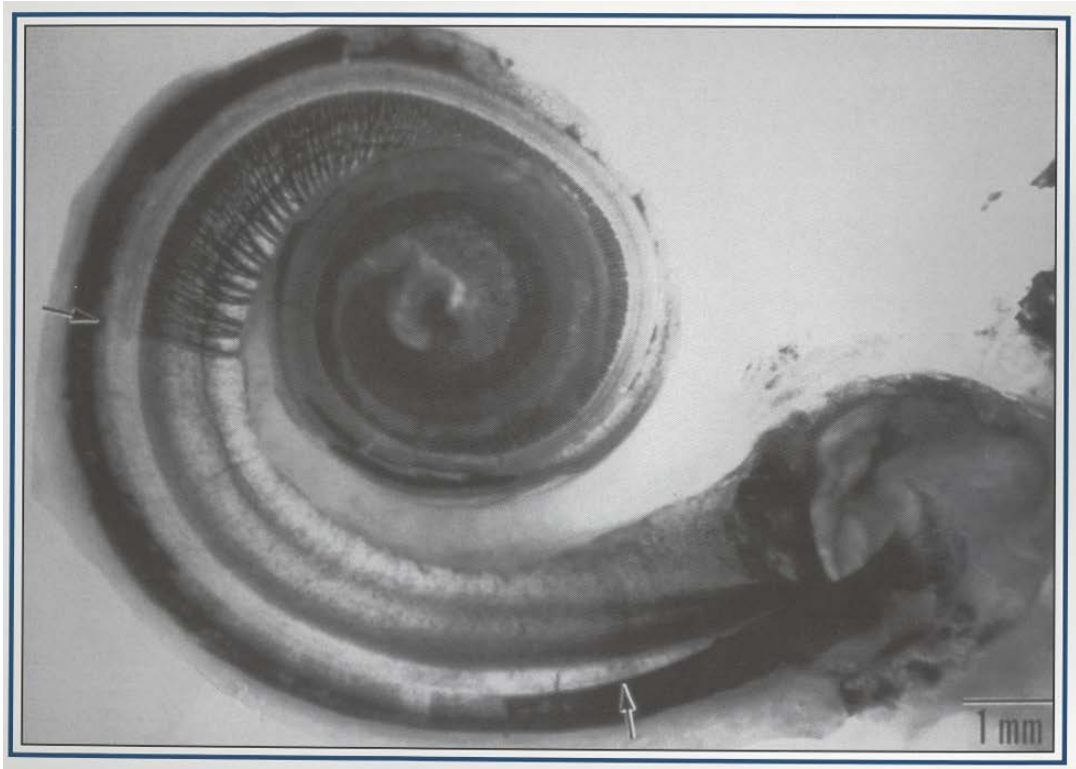
(E) I'm not sure

EFFECTS OF NOISE – NORMAL COCHLEA



EFFECTS OF NOISE – DAMAGED COCHLEA

- Causes hearing loss
- Amount of damage depends upon the intensity of the noise and duration of exposure
- Noise-induced hearing loss can be temporary or permanent

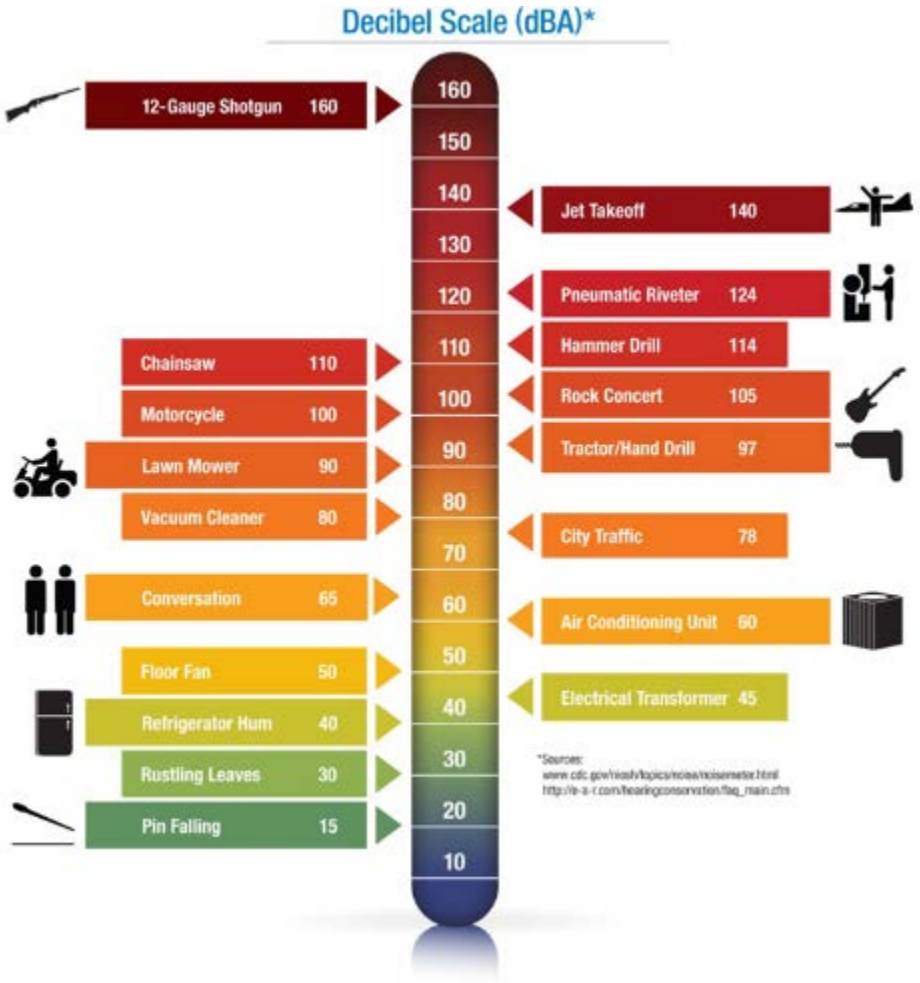


CONDUCTING A SOUND LEVEL SURVEY

- Also referred to as “monitoring”
- Required when exposure may equal or exceed 85 decibels TWA (action level, or AL)
  - Used to identify noise generators to reduce noise levels
  - Used to determine employees for hearing conservation program
  - Used for determining appropriate hearing protection
- Monitoring repeated when noise exposures increase from
  - Change in production
  - Change in process
  - Change in equipment or controls
- Employees exposed at or above TWA notified of results

DETERMINING HIGH-NOISE GENERATORS

Duration per Day (Hours)	Sound Level (dBA Slow Response)
8	90
6	92
4	95
3	97
2	100
1.5	102
1	105
0.5	110
0.25 or less	115



IDENTIFYING HIGH-NOISE GENERATORS

Vacuum Pump Exhaust

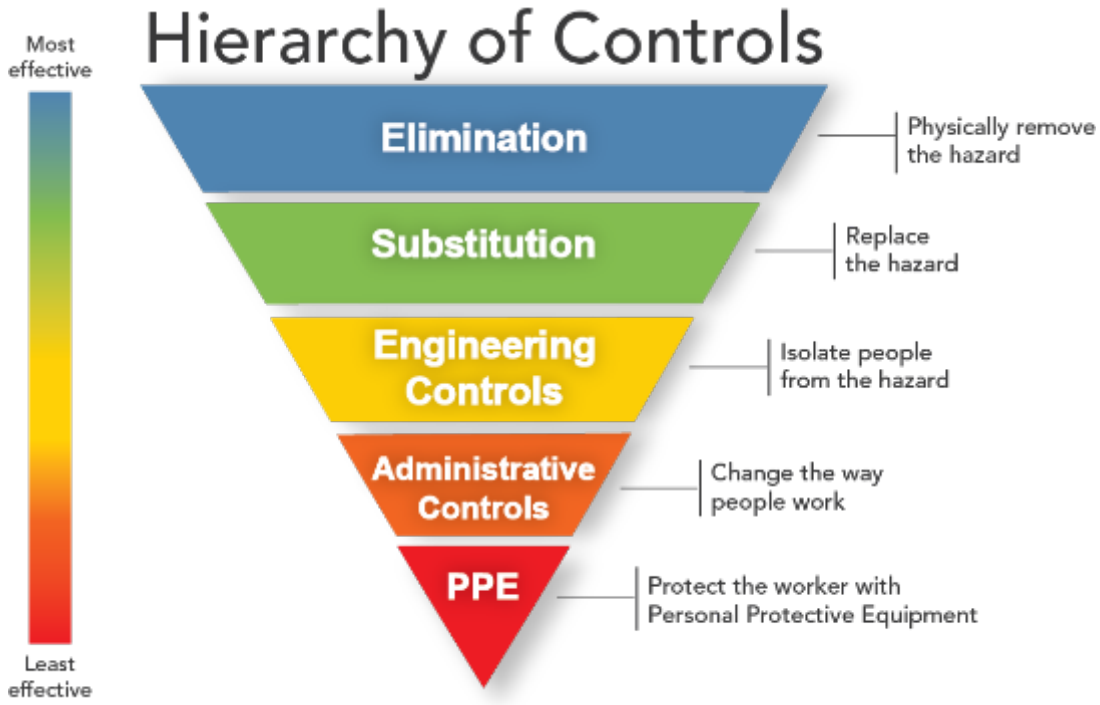
Pneumatic Pump Exhaust

Riveters

Pneumatic Jack Hammers

HAZARD MITIGATION

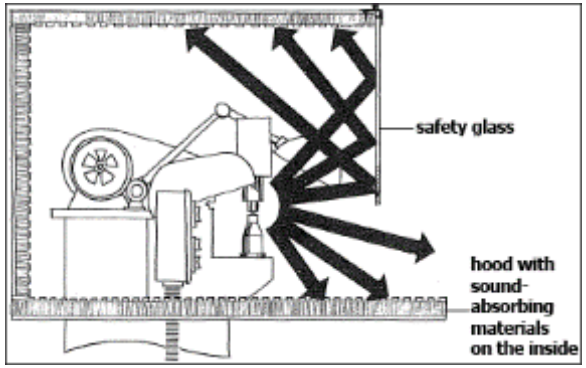
Hazard-Control Hierarchy: eliminating or reducing exposures by implementing feasible and effective controls



HAZARD MITIGATION

Vacuum Pump Exhaust Silencer

Peristaltic Pump



Sound-Absorbing Enclosure

Jack Hammer Muffler

Pneumatic Pump Exhaust Silencers

Sound-Absorbing Panel

PPE – LAST RESORT

- Ear plugs
- Ear muffs
- Canal caps

AUDIOMETRIC TESTING

- For employees whose exposures equal or exceed the AL
- Performed by a licensed/certified audiologist, otolaryngologist, or other physician, or by a CAOHC-certified technician
- Baseline audiograms (against which future audiograms are compared)
  - Within 6 months of an employee's first exposure at or above AL
  - 14 hours without exposure high-noise levels (or use of hearing protection) prior to test
- Annual audiometric testing
  - For employees whose exposures equal or exceed the AL
  - Compared to baseline for identifying Standard Threshold-Shifts (STSs)

STANDARD THRESHOLD-SHIFTS

- An average of 10 dB or more change in hearing threshold at 2000, 3000, and 4000 Hz in either ear relative to the baseline audiogram
  - Allowance may be made for the contribution of aging
- If an STS is identified:
  - Retest within 30 days
  - Notify the employee (in writing) of their STS within 21 days
- If retest indicates a work-related STS:
  - Provide hearing protection, train or retrain, provide additional testing
  - Annotate on OSHA 300 Log
- Revised baseline
  - If STS is persistent
  - If significant improvement over original baseline

RECORDKEEPING

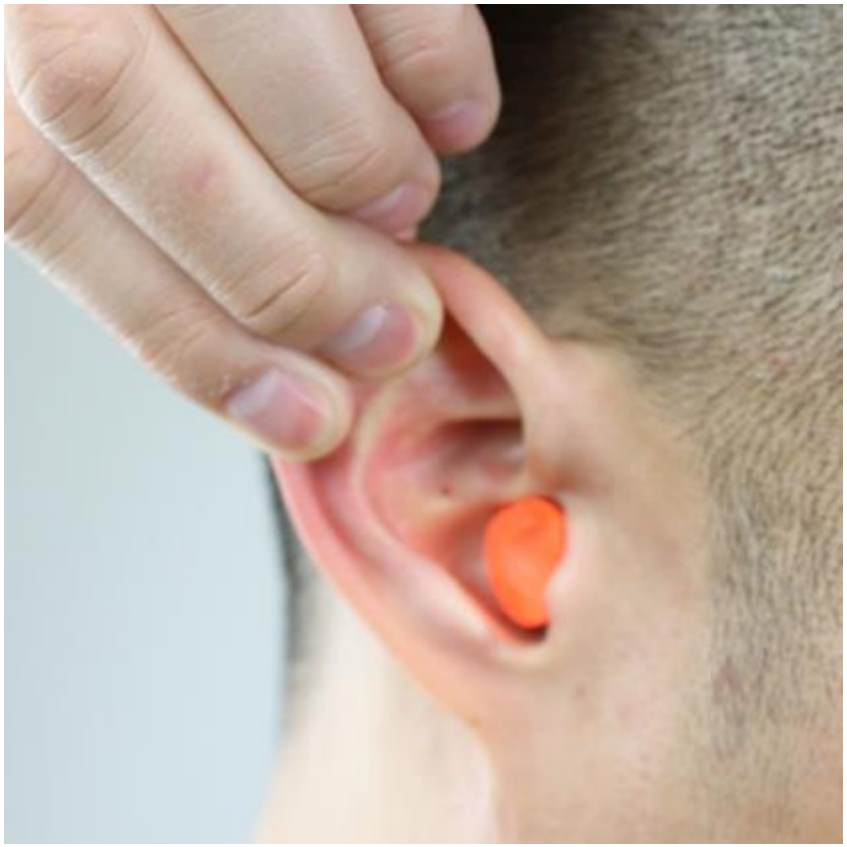
- Exposure measurements (two years)
- Retain employee audiometric test records (duration of the affected employee's employment)
  - Employee name and job classification
  - Audiogram date
  - Last acoustic or exhaustive audiometer calibration date
  - Employee's most recent noise exposure assessment
- Employees have the right to access exposure measurements and their test results
- OSHA Logs: current year and previous 5 years

TRAINING REQUIREMENTS

- Train each employee who is exposed at or above the AL
- Initial and annual
  - The effects of noise on hearing
  - The purpose of hearing protectors and the advantages, disadvantages, and attenuation of various types
  - Instructions on selection, fitting, use, and care
  - The purpose of audiometric testing and an explanation of the test procedures
  - Engineering and administrative controls

PROPER PPE INSERTION

- Roll (depending on type)
- Open ear canal
- Insert ear plug



POLL QUESTION #2

Which hearing protection is inserted correctly?

(A)

(B)

(C)

(D) A & B

SUMMARY

- Conducting a sound level survey
- Determine high-noise generators
- Hazard mitigation
- Audiometric testing
- Standard threshold-shifts
- Recordkeeping
- Training requirements

QUESTIONS?

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