



# NOISE DOSIMETRY

## TOOLBOX TALK SERIES – HEARING CONSERVATION

February 2024

Noise dosimetry is a vital tool in assessing and managing workplace noise exposure. It helps us understand how much noise an individual is exposed to over a specific period. This handout provides an overview of noise dosimetry and its importance in maintaining a safe and healthy work environment.

### What is Noise Dosimetry?

Noise dosimetry is a method of measuring and assessing an individual's exposure to noise over a designated period, usually a work shift. It accounts for both the intensity of the noise and the duration of exposure, providing a more accurate representation of the actual risk to hearing health.

### Components of Noise Dosimetry:

#### 1. Dosimeter Device:

- A small, portable device worn by an individual to measure personal noise exposure.
- Typically attached to the worker's clothing, near the ear, to simulate the ear's exposure to noise.

#### 2. Time-Weighted Average (TWA):

- Represents the average noise exposure over an 8-hour work shift.
- Calculated by integrating noise levels over time, considering the varying levels throughout the day.



*Noise Dosimeter*

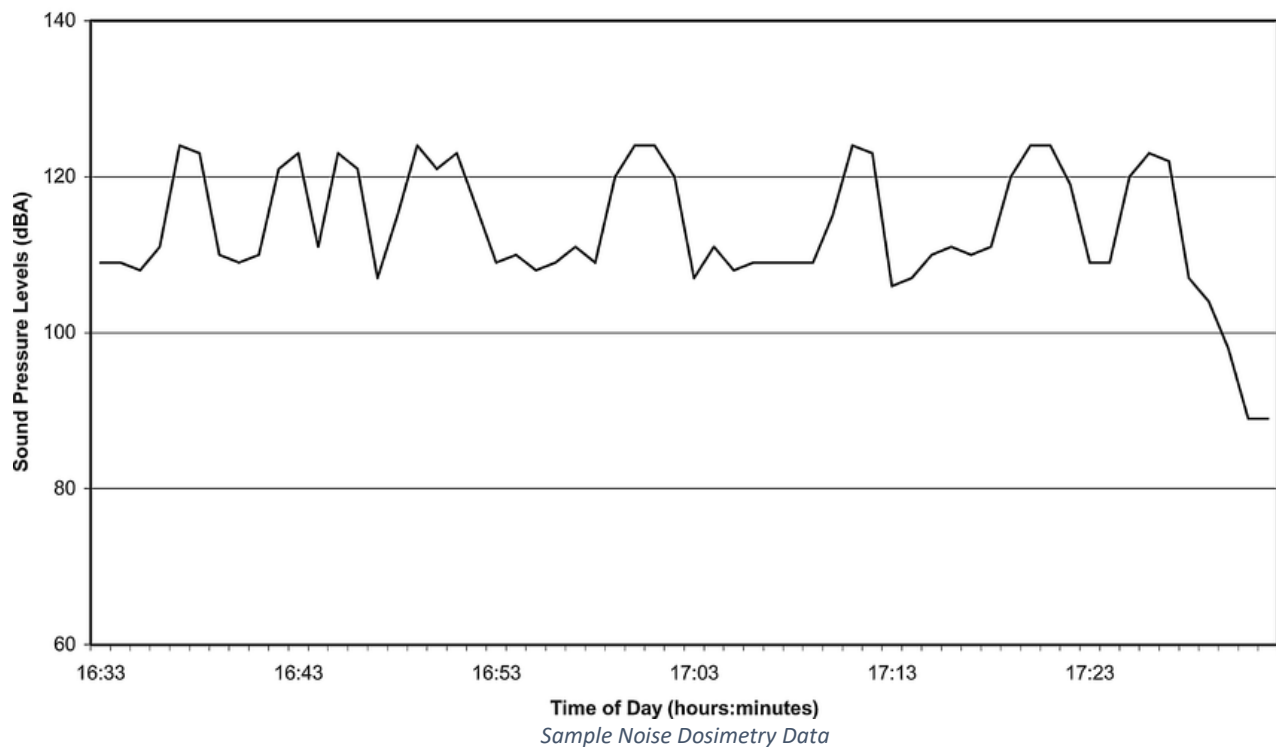
### Why is Noise Dosimetry Important?

- **Individualized Exposure Assessment:** Provides a personalized assessment of noise exposure, accounting for variations in work tasks and environments.



- **Compliance Monitoring:** Helps organizations comply with occupational safety regulations by ensuring that employees are not exposed to noise levels exceeding permissible limits.
- **Identifying High-Risk Areas:** Pinpoints specific tasks or work areas where noise levels may pose a higher risk, facilitating targeted control measures.

**Personal Noise Dosimetry**  
**Inside Stockcar During "Happy Hour" Practice**  
**1st Race at Bristol Motor Speedway, Bristol, Tennessee**  
**LeqA = 119 dB(A)**



### Interpreting Dosimeter Readings:

- Dosimeter readings are measured in decibels (dB).
- Compare individual readings to established exposure limits to assess the risk of hearing damage.
- Understanding the readings helps identify areas requiring additional hearing protection or noise control measures.



## Using Dosimetry for Hearing Conservation:

### 1. Selecting Hearing Protection:

- Based on dosimeter readings, choose appropriate hearing protection, such as earplugs or earmuffs.
- Ensure proper fit and compliance for maximum effectiveness.

### 2. Engineering Controls:

- Implement engineering solutions to reduce noise levels in high-risk areas.
- Dosimetry data helps identify priority areas for control measures.



*Sample Noise Engineering Controls*

### Conclusion:

Noise dosimetry plays a crucial role in protecting our hearing health. By understanding individualized exposure levels, we can implement targeted measures to reduce the risk of noise-induced hearing loss. Your commitment to wearing dosimeters and following safety guidelines contributes to a safer and healthier workplace for everyone.

Thank you for prioritizing your hearing health and safety!