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A PRELIMINARY ANALYSIS OF SOUND-LEVEL EXPOSURES OF FULLTIME CHORAL, GENERAL, AND INSTRUMENTAL MUSIC EDUCATORS DURING TYPICAL WORK DAYS

Research supports that music educators are exposed to variable and intense sound levels that may place them at risk for noise-induced hearing loss (NIHL) during the progression of their careers. Because national and international standards are designed to verify that industrial workers experience safe sound levels, minimal (if any) long-term reliable descriptions of music educators' sound-level exposures exist. Thus frequently, music educators are not informed of the possibility of NIHL until it is too late in life to protect their hearing while fulfilling occupational responsibilities.

Sound-level exposures for industrial workers are measured via a dosimeter that is set to either the standards established by the International Standards Organization (ISO), or by the United States Occupational Safety and Health Administration (OSHA). Particularly OSHA sound-level-exposure standards are not robust and are lenient; thus, because of the variability of music educators' sound-level exposures, they frequently are defined at minimal risk for hearing loss due their occupation. However, these findings are not reliable relative to NIHL that occurs gradually during the progression of a career including variable and intense sound levels. The study submitted for presentation during the North Carolina Music Educators Conference (November 2004) begins a series of studies to collect dosimetric data in an attempt to provide music educators with sufficient information describing the extent to which they are exposed to sound levels that may place them at risk for NIHL. The foundational purpose of this study was to describe music educators' sound-level exposures during typical choral, general, band, and orchestral music teaching and learning work days. Specifically, the purpose of the study was three fold:

1. To describe the estimated average and dose of sound-level exposures of fulltime music educators in band, choral, general, and orchestral music teaching and learning environments during typical work days. A music educator's typical work day was derived from two days of dosimetric data.
2. To determine the extent to which sound-level exposures of music educators meet or exceed the permissible International Standards Organization (ISO) sound-level-exposure standard (i.e., 85 dBA and 100% dose) in band, choral, general, and orchestral music teaching and learning environments during typical work days.
3. To describe sound-level exposures by the following grouping variables: (a) teaching specialization, (b) teaching activity (e.g., warm-up, rehearsal of music, class discussion, meeting, etc.), (c) music selection rehearsed or performed, (d) number of students or school personnel participating in teaching activity, (e) grade level(s) of students participating in a music class, (f) characteristics of room(s) in which teaching activities occur (e.g., room size, and descriptions of walls, floors, and ceiling), and (g) music educator's years of teaching experience

Currently the researchers of this study are completing a preliminary analysis of the sound-exposure data relative to: (a) estmated average and dose of sound-level exposure by fulltime music educators in band, choral, general, and orchestral music, (b) the extent to which sound-level exposures of music educators meet or exceed the permissible International Standards Organization (ISO) sound-level-exposure standard (i.e., 85 dBA and 100% dose), and (c) teaching specialization and activity. As a result of the preliminary analyses of sound-level-exposure data, the researchers will be able to discuss and present sound-level-exposure data by music education classes, specific classroom activities, number of students and teachers participating in an activity, and grade levels during the NCMEA Research Poster Session (11/15/04, 4:00 p.m.).