

Total Hearing Health: A Holistic Approach to Hearing Health Care

By Christi Themann, MA, CCC-A

About 24 percent of hearing impairment cases among U.S. workers are attributable to workplace noise exposures.¹ Noise has been regulated in the United States for decades, yet hearing loss remains one of the most highly prevalent work-related conditions. Although rates of noise-induced hearing loss are slowly declining overall, progress has been slow and trends vary by industry.² Clearly, a new approach is needed to reduce the burden of occupational hearing loss.

The National Institute for Occupational Safety and Health (NIOSH) launched the Total Worker Health® (TWH) Program to promote worker wellness by integrating occupational safety and health practices with injury and illness prevention efforts.³ Traditional occupational safety and health programs have primarily concentrated on ensuring that work is safe and that workers are protected from the harms that arise from the work itself. TWH expands this approach to include risk factors and health behaviors traditionally deemed unrelated to workplace safety. NIOSH defines TWH as a set of “policies, programs, and practices that integrate protection from work-related safety and health hazards with promotion of injury and illness prevention efforts to advance worker well-being.”⁴ TWH is a holistic approach to health that integrates workplace safety interventions with health promotion efforts to maximize health and minimize illness and injury.

TOTAL HEARING HEALTH

Total Hearing Health is the application of TWH principles to the prevention of noise-induced hearing loss. Regardless of occupation, nearly everyone encounters hazardous sound exposures at some point in their lives. Preventing the effects of noise requires expanding occupational hearing conservation activities beyond the workplace. Additionally, non-work factors can influence the impact of workplace noise exposure. For example, as a worker ages, the effects of early noise exposures may affect his or her quality of life, while the general effects of aging may worsen the impact of workplace exposures. Reducing the prevalence of hearing loss necessitates a comprehensive approach. On the one hand, it requires integrating



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hearing loss prevention activities into clinical practice and community outreach programs. On the other hand, it calls for occupational hearing loss prevention programs to raise awareness and encourage protective behavior when individuals are exposed to noise outside of work.

A recent publication in the NIOSH “Workplace Solutions” series describes concrete recommendations for implementing a Total Hearing Health approach. “Workplace Solutions” documents are designed to provide easy-to-understand, easy-to-access, and easy-to-use recommendations that turn the results of NIOSH research into occupational safety and health practice.⁴ The document, “Using Total Worker Health® Concepts to Address Hearing Health,” explains how TWH can be applied to hearing loss prevention by extending hearing conservation efforts beyond the workplace while integrating hearing loss prevention into clinical hearing care and community health efforts.

Workplace hearing loss prevention activities can be expanded by encouraging workers to get to know their noise exposures both on and off the job. Advances in technology have made it possible for anyone to easily monitor their own



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noise exposures using inexpensive sound level meters or a smartphone app such as the NIOSH Sound Level Meter (bit.ly/NIOSHsoundapp). In addition, occupational hearing conservation programs can educate workers about possible non-work exposures and encourage employees to use hearing protection when they are exposed to noise away from work. Companies might consider supplying hearing protection for community events which may involve loud noise exposures or other risks to hearing. Supporting hearing loss prevention efforts in the community reinforces hearing loss prevention messages at work.

STRATEGIES FOR HEARING CARE PROVIDERS

Notably, Total Hearing Health is not just a concept for the workplace. Hearing health care providers can and should be advocates for hearing loss prevention regardless of their employment setting. Clinicians should ask their patients about exposures and activities that can be hazardous to hearing, and provide recommendations to reduce risk. Expanding the test battery for at-risk clients (e.g., OAEs, extended high frequency audiometry) can sometimes identify signs of early hearing changes requiring intervention. Hearing professionals should help their noise-exposed patients select appropriate hearing protection (see Patient Handout “How to Choose the Right Hearing Protector”; <http://bit.ly/PatientHandouts>) and provide fit testing for hearing protectors. Furthermore, providers should look for outreach opportunities to raise awareness of the importance of preserving good hearing; for example, offer hearing screenings at health fairs or visit schools to discuss hearing health and measure output levels of personal listening devices.

In addition to describing how Total Hearing Health principles can be incorporated by occupational health programs and hearing health care professionals, the NIOSH “Workplace Solutions” document provides examples of effective workplace practices. These examples come from an incentive program developed by a NIOSH public health practice project—the Safe-in-Sound Excellence in Hearing Loss Prevention Award™.⁶ The Safe-in-Sound program has acquired high-quality field data on interventions that eliminated the need for a hearing conservation program or reduced the number of workers enrolled in the program as a result of lowered noise exposure levels. These successes are often due to innovative interventions that go beyond simple regulatory compliance. Many Safe-in-Sound award winners expanded their preventive initiatives to outside the workplace by integrating occupational safety and health protection into health promotion.

One case study in the document describes a Safe-in-Sound award winner who broadened the scope of his efforts to address noise risk from non-occupational noise exposures commonly encountered by his employees. For example, hunting is a favorite sport among his workers, so many employees have exposure to recreational firearm impulse noise in addition to the noise encountered on the job. In view of this, the company incorporated information about firearm noise and hearing protectors specially designed for shooting sports in

their annual hearing conservation training. The employee store stocks earplugs specifically designed for shooting sports in the employee store at minimal cost. The company posts reminders to use hearing protection each fall and spring when hunting season opens.

Compliance with current regulations is not enough to prevent the effects of noise. Using THH concepts and real-world applications from Safe-In-Sound winners, this “Workplace Solutions” document provides practical, feasible recommendations for reducing exposures at work and in daily life that can be readily implemented by employers, workers, and hearing professionals. Broadening the scope of hearing loss prevention interventions to encompass all risks to hearing should increase their effectiveness and reduce the burden of noise-induced hearing loss. 

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