



# OSH Heads-Up

Tri-State Occupational Health and WORKSAFE IOWA

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**"One of the 21st century's most important environmental health issues" &  
"The most prevalent irreversible occupational hazard" (1)**

What would you guess? water quality? back pain? The answer: Noise and noise-induced hearing loss.

Population growth, urban sprawl, busier highways and airports, noisy electronic devices that we keep inventing (think car alarm, leaf blower)—they all add up to possible hearing loss, which unfortunately, once lost, is gone forever. And other adverse health effects of noise are showing up in research: changes in brain chemistry, sleep deprivation, elevated blood pressure and heart disease (which makes hypertension screening a good component of a noise reduction program). We talk now in terms of "secondhand noise" (2). Like the cigarette smoke that generated the concept, it's created without your consent and affects you in ways you can't control. It can come from social annoyances like cell phones or high-noise producers like airplanes taking off over your home.

Researchers have identified the industries with a high number of workers exposed to loud sounds. Most of them are not surprising: mining; transportation (especially repair and maintenance); agriculture/forestry/fishing; construction; and manufacturing (3). Office workers are not immune, however. Studies show that low-intensity, chronic noise in open-style offices increases stress and decreases motivation.

With nearly one of every 6 US workers exposed to workplace noise loud enough that they have to raise their voice to be heard, what's to be done? While not the solution, regulations do exist. OSHA's Noise Standard requires employers to supply hearing protection for employees in high-decibel environments (4). But when exposed workers (one in 3 in one study) report they don't use protection devices (3), additional creative interventions are clearly needed, like targeted information campaigns and more comfortable devices that permit communication.

Engineering controls that remove or block the hazard altogether are most effective. Quiet zones around hospitals do improve healing, and urban planners now work with "soundscaping" around office buildings (5). Administrative decisions can also create distance from noise, as in meeting rooms that are separate from the main work area.

And perhaps education can focus not only on the potential for hearing loss but on the benefits of silence. Studies show it does in fact improve concentration, classroom learning, and even empathy (so say professionals involved with conflict resolution) (5). Rather than preventing noise, we may want to think in terms of nourishing the silence, to enhance our work and personal lives.

1 - Decibel Hell. Chepesiuk, R. *Environmental Health Perspectives*. 2005 Jan; 113 (1): A35-A41.

2 - Secondhand Noise and Stress. Tompkins, O. *AAOHN Journal* 2009 Oct; 57(10):436.

3 - Exposure to Hazardous Workplace Noise and Use of Hearing Protection Devices Among US Workers—NHANES, 18999-204. Tak S, Davis R, Calvert G. *American Journal of Industrial Medicine*. 52:358-371 (2009).

4 - OSHA CFR1910.95(i)(1) - Noise Standard  
[www.osha.gov/pls/oshaweb/owadisp.show\\_document?p\\_table=standards&p\\_id=9735](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=standards&p_id=9735)

5 - Now Don't Hear This. *New York Times Opinion*, George Prochnik, May 1, 2010 -  
[www.nytimes.com/2010/05/02/opinion/02prochnik.html?scp=1&sq=&st=nyt](http://www.nytimes.com/2010/05/02/opinion/02prochnik.html?scp=1&sq=&st=nyt)