

Compound Effects of Ototoxicants and High Noise Levels

Ototoxicants

Chemicals that can cause hearing loss and tinnitus when inhaled, ingested, absorbed through the skin or enter into the blood stream.

Found in certain over the counter medicines, pesticides, solvents with xylenes, and carbon monoxide; such as smoke from cigarettes and welding.

These ototoxicants damage nerve fibers and hair cells in your inner ear, causing hearing issues.

There are currently more than 200 ototoxic chemicals on the market.

When reviewing a Safety Data Sheet for other chemicals known to cause hearing damage, look for "Neurotoxicant" and "Nephrotoxicant"

IS THIS TRUE?

Regular use Naproxen and Ibuprofen come with more long lasting and potentially negative side effects than most people think.

Researchers found that people who reported using an anti-inflammatory like ibuprofen, or acetaminophen for more than six years showed a 9% to 10% higher risk of having hearing loss more than a decade later.

Hearing loss can occur with daily doses of large quantities of aspirin, (8-12 pills per day) as well as other drugs such as certain antibiotics, anti depressants, and cancer treatments.



Risk of Combination

In a press release, Dr. Vincent Lin states, "We are now starting to understand that chronic excessive noise exposure leads to depression, anxiety, increased risk of chronic diseases and increased accident risk," As cited in *Safety and Health*, Feb.2018 p.15.

Sounds of less than 75 decibels are unlikely to cause hearing loss. Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss.

An example of both noise exposure and ototoxicants is operating a gas powered leaf blower. This exposes you to both loud noise (avg. 100 dB) and carbon monoxide, heavily increasing risk of hearing loss.

For more information, UA College of Pharmacy has an information center identifying dangerous drug combinations and shares chronic pain treatment options. Visit www.oarline.com or call the information hotline at 1-888-688-4222

"Exposure to Certain Chemicals May Cause Hearing Loss: OSHA." *Safety and Health*, May 2018, p. 16.

"Noise-Induced Hearing Loss." *National Institute of Deafness and Other Communication Disorders*, U.S. Department of Health and Human Services, 7 Feb. 2017, www.nidcd.nih.gov/health/noise-induced-hearing-loss

Park, A. "If You Take Ibuprofen Often, Read This." *Time*, 14 Dec. 2016, <http://time.com/4602377/if-you-take-ibuprofen-often-read-this/>

Rathner, J. "Common Chemicals Create Risk for Hearing Loss." *Lifelines*, vol. 15, no. 1, June 2018.

"Take Public Transit to Work? Your Hearing May Be at Risk, Researchers Say." *Safety and Health*, Feb. 2018, p. 15.

"The Common Medications Known to Cause Hearing Loss." *HearingAids.com*, 6 Mar. 2018.

Average Decibel Ratings of Sounds

| | |
|--------------------------|--------|
| Humming of Refrigerator | 45 dB |
| Conversation | 60 dB |
| Noise from Heavy Traffic | 85 dB |
| Blow Dryer | 90 dB |
| Motorcycles | 95 dB |
| Hand/Pneumatic Drills | 100 dB |
| MP3 Player at Max Volume | 105 dB |
| Fireworks and Guns | 150 dB |



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