Employees who are exposed to hazardous levels of noise in the workplace are at risk for developing noise-induced hearing loss. Noise-induced hearing loss is 100 percent preventable but once acquired, hearing loss is irreversible. Fortunately, the incidence of noise-induced hearing loss can be reduced or eliminated through the successful application of workplace controls and hearing conservation programs, as described in the University’s written Hearing Conservation Program.

**Hearing Conservation Program**

Per OSHA regulation 29 CFR 1910.95, employers must administer a hearing conservation program whenever employee noise exposures equal or exceed the Action Level of 85 decibels 8-hour time-weighted average. This program must include noise monitoring, annual employee training, implementation of noise controls, and annual audiometric testing. Contact EHS, askehs@cornell.edu, if you have questions or concerns about noise levels in your workspace.

**Hazardous Noise**

- Permanent hearing loss (nerve damage) can occur when the ear is exposed to 85 decibels (dB) or higher averaged over an 8 hour work day.
- If workers standing only a few feet apart have to shout or raise their voices to be heard, it is an indication that noise levels are above 85 dB.
- Symptoms of noise induced hearing loss can include ringing in the ears (tinnitus) and difficulty understanding conversation (sound distortion).
- Hearing loss is usually painless and the symptoms can be hard to identify and may go unnoticed.
- Noise that causes pain in the ear is an indication that the noise level is too high.
- Any exposure to the ear at 140dB or higher can cause immediate and permanent hearing loss.

**Sound Levels**

- Normal conversation  60 dB
- Vacuum Cleaner  85 dB
- Push Lawnmower  95 dB
- Tablesaw  100 dB
- Chainsaw  105 dB
- Wood Chipper  110 dB

**Noise Controls**

- **Engineering Controls** - can include equipment substitution or use of sound absorption/insulation materials
- **Administrative Controls** - rotating employees to reduce the time each person is exposed to the noise
- **PPE** - earplugs, earmuffs, and canal caps

**Hearing Protective Devices**

- **Earplugs** - have the highest NRR (up to 33 dB) and are inexpensive.  **Plugs must be inserted properly!**
- **Earmuffs** – form air-tight seal over the ear, NRR up to 30 dB, less effective when using eyewear.
- **Canal Caps** – lower NRR, use pressure from a headband to hold the earplugs in place.

**Noise Reduction Rating (NRR)** – the decibel reduction a wearer can expect from a properly fitted hearing protective device. All NIOSH (National Institute of Occupational Safety and Health) approved Hearing Protection Devices have an NRR.