

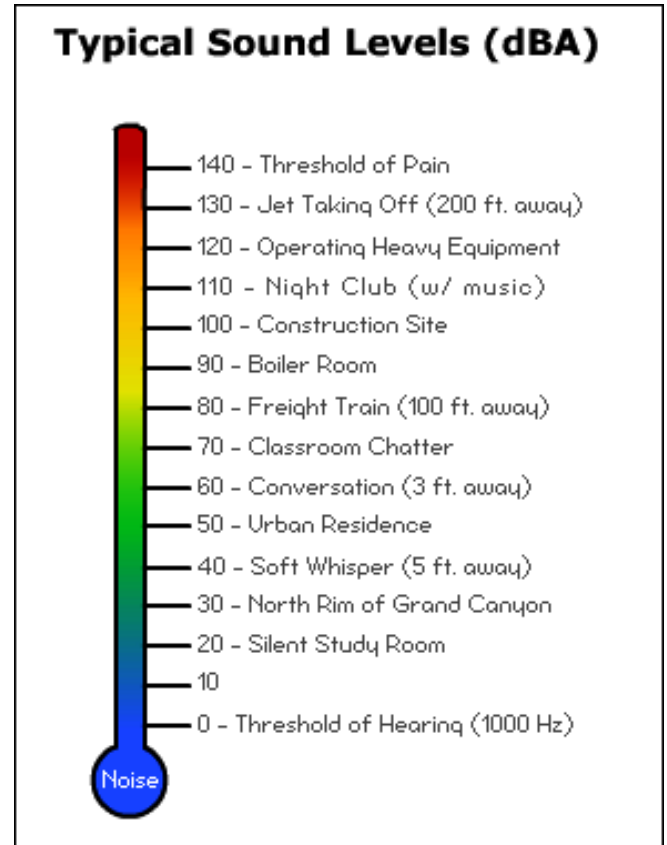


HOW DOES NOISE CAUSE HARM?

Sound is a form of energy that is transmitted by pressure variations which the human ear can detect. When the ear is exposed to prolonged sound and high levels, it can permanently damage hearing by damaging the hair cells in the ear that transmit the sound waves to the brain. Currently, there is no medical treatment to replace hearing lost by high noise exposure.

HOW IS NOISE MEASURED?

Noise is measured in units of sound pressure called decibels (dB). Decibels are measured on a logarithmic scale, therefore a small change in the number of decibels indicates a large change in the amount of noise. Sound level meters are used to measure sound. When measuring sound levels to determine the effect on humans, meters should be adjusted (or weighted) to the A-weighted scale. A-weighting puts less emphasis on the extremely low and extremely high frequencies to focus on the frequencies that have the largest effect on human hearing. Sound measured on the A-scale are reported in dBA, or dB(A) as sometimes written.



Source: OSHA Technical Manual, Section III: Chapter 5, Figure 3. Decibel Scale

ARE NOISE LEVELS REGULATED?

The Occupational Safety & Health Administration (OSHA) regulates noise levels in the workplace. OSHA has set the action level at 85 dBA. Workplaces that expose employees to noise levels at 85 dBA over an 8 hour shift time, or time weighted average (TWA), are required to have a written Hearing Conservation Program. The University of Oregon has a Hearing Conservation Program located here: safety.uoregon.edu/hearing-conservation-program

WHEN SHOULD I WEAR HEARING PROTECTION?

Hearing protection is required for noise exposures over 90 dBA over an 8-hour shift. Protection is also required for loud activities (such as using a chain saw or leaf blower) even if they aren't done for an entire 8 hours.

