

Hearing Conservation: WHY YOU SHOULD PROTECT YOUR HEARING.

Why Do I Need To Hear?

Safety, Socialization, Quality of Life.

Like many of your senses, humans use hearing as an essential tool for survival. While we once needed their hearing to sense an approaching animal predator, the ability to hear modern dangers or safety signals, such as a car or fire alarm is just as important.

Additionally, your sense of hearing is a vital link to your world –
**a source of pleasure,
information, and communication.**

Hearing contributes to personal safety, emotional well-being, and independence.

Studies have linked the effects of untreated hearing loss to many problems, including **stress, depression, isolation, reduced earning power, and even health issues.**



Imagine losing the ability to hear the VOICE OF A LOVED ONE, THE SOUND OF RAIN OR LEAVES, DIALOGUE FROM A MOVIE, OR YOUR FAVORITE MUSIC. Not ideal, is it?

For Musicians, it's even more important.

Musicians rely on their hearing to determine:

TEMPO TUNING TONE

Music is made of complex tones, consisting of a fundamental and overtones. Musicians use those overtones when matching pitch or timbre. The presence or absence of those overtones - **especially the highest frequencies** - gives the impression of "brightness" and "darkness" in a sound and has a large impact on our perception of tone quality.

What Causes Hearing Loss?

Our ears are very delicate instruments, and our ability to hear can diminish for a number of reasons.

The majority of people develop a hearing loss as they get older. This type of hearing loss is referred to as presbycusis. Over time, part of the ear's delicate mechanism may break down or simply wear out.

Another type of hearing loss is called **NOISE-INDUCED HEARING LOSS, OR NIHL**

YOUR EARS ARE FRAGILE.

Tiny hair cells in your cochlea can easily be damaged by sounds – and not just loud sounds. Medium sounds that last for a long time can be just as damaging as high-intensity loud sounds.

And there is NO DIFFERENCE between sounds you like (i.e. music) and sounds you don't like (i.e. the lawn mower). They both have the potential to harm your hearing!

NIHL will begin as a hearing loss in you **incredibly important, HIGH FREQUENCIES.**

**Once those hair cells are damaged, they CANNOT BE REPAIRED.
Without the hair cells, you CANNOT HEAR.**

Do you want to know the good news?

Noise-induced hearing loss (NIHL) is COMPLETELY PREVENTABLE.

So, let's do something to protect your ears, shall we?

How do I prevent NIHL?

Step 1: Know when you are in danger.

So how do you know if an environment is too loud? The general rule:

it is SAFE to be in 85 dB for 8 hours

Any time you spend in an 85dB environment *over* 8 hours has the potential to cause NIHL (Disclaimer – *most likely* a one time exposure to 85 dB sounds longer than 8 hours will not cause a hearing loss, but it *might*. In general, *repeated* exposure to 85 dB longer than 8 hours is of concern.)

What if you're not in 85 dB?

it is SAFE to be in 82 dB for 16 hours

it is SAFE to be in 85 dB for 8 hours

it is SAFE to be in 88 dB for 4 hours

it is SAFE to be in 91 dB for 2 hours

...get it? For every increase of 3 dB, you halve the amount of time you can safely be exposed to that sound.

So, what does 85 dB sound like?

In general, 85 dB is the sound of a noisy restaurant. You will be safe for 8 hours. After 8 hours you may be at risk of NIHL.

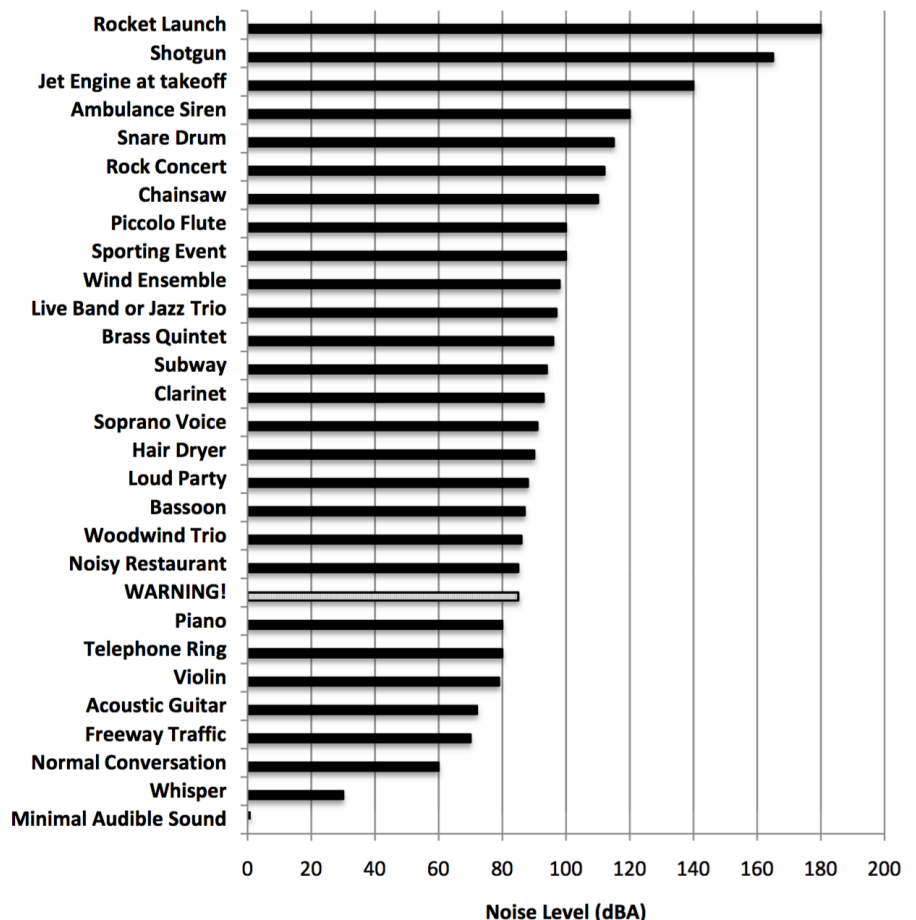
Here are a few more:

An iPod is often set to a volume of 91 dB. You will be safe for 2 hours.

A live band or jazz trio is 97 dB. You will be safe for 30 minutes.

A sporting event is 100 dB. You will be safe for 15 minutes.

A rock concert is 110 dB. You will be safe for less than 2 minutes.



Sound exposure is cumulative.

The sounds you hear throughout your day can add up to a big problem.

Think of your sound exposure as a daily dose. **YOU DO NOT WANT TO EXCEED A 100% DOSE OF SOUND.** Anything over 100% means that you may be at risk of a hearing loss.
85dB for 8 hours is 100% of your daily dose.

Consider this example:

3 hour of practice	=	150% dose of sound
1 hour of ensemble	=	200% dose of sound
1 hour dinner with a live band	= +	<u>200% dose of sound</u>

550% dose of sound – you have received 5.5 times the recommended maximum! You are at risk of a hearing loss!

Worried yet?...keep reading.

Our goal is not to scare you, but to help you learn. Keep in mind that a one-time exposure is usually not a big deal, but think about your job and your social activities. Do you make a living as a music teacher or performer? Do you go out to concerts or clubs? Do you dine out a lot?

All of those activities do add up.

All of your activities throughout a day (yes – everything counts!) can easily add up to a large amount of sound exposure.

Step 2: If you're in danger, do something about it!

Ok, so your job is noisy, AND you like to spend time in noisy environments. That's fine. Here's what you can do to protect yourself.

1. Spread out your activities. If you have a rehearsal and concert in the same day, find something *quiet* to do before – it is NOT the best day to also go to a club or hear a live band over dinner. Spread out the noisy activities in your life, and mix them in with quieter events.
2. If you do need to be in environments that would make you exceed your 100% dose of sound, use ear protection. Musician's earplugs are very effective and can be quite affordable.
3. Give yourself some space. Be aware of your surroundings, and when possible adjust your position for maximum space around you.
4. In general, turn down your car stereo and iPod. No, it's not just because the rest of us don't want to hear your music. :)

Step 3: Still concerned? Give us a call!

Worried that you might be exposed to too much sound at work or at home? Be sure to come for your annual hearing test! You can also ask for a hearing conservation consultation with Dr. Rebecca Libera, our resident Occupational Hearing Conservationist. She's here to answer questions and help you find the right hearing protection.

We're here to help!

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