

Athletes and the Arts®

# Musicians and Noise-Induced Hearing Loss



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## Issue

As an art form, music is a human expression performed solo or in groups, un-amplified or amplified. Musical sounds can exceed daily exposure limits, and musical activities can be dangerous to hearing. Artistic freedom is both appreciated and valued. However, this freedom must not be used as a distraction from concerns related to musician health and safety. Sound levels in both the public domain and U.S. music school programs are currently not governed by regulatory policies. In response, the CDC is now calling for policies designed to protect musicians from excessive exposure to musical sounds produced during band, choir, and orchestra classes because:

- 50% of musicians may have problems with hearing loss.
- Listening to music, live or recorded, in performance or rehearsal, can result in significant exposure to high sound levels.
- Risk of injury is based on a combination of sound intensity and duration.
- Hearing loss is cumulative: all sources (24/7) of elevated sound levels contribute.
- Permanent noise-induced hearing loss is irreversible.
- Temporary noise-induced hearing loss is reversible with adequate rest and recovery.

## Safe Levels

In the US, experts recommend a daily exposure limit to sound that is no greater than the equivalent to 85 decibels (dB) over an 8-hour period with a 3 dB time/intensity exchange rate. This means for every 3 dB increase over 85 dB, the time exposure is halved to prevent Noise Induced Hearing Loss (NIHL) - 88 dB

for 4 hours max per day, 91 dB for 2 hours max per day or 94 dB for 1 hour max per day. 80 dB = alarm clock or busy street, 90 dB = lawn mower, 100 dB = snowmobile

## Guidelines

The Athlete and the Arts Coalition recommends that:

- All musicians, teachers and music schools should be informed/educated about hearing health and the above recommended daily exposure sound levels.
- Sound levels should be monitored by teachers and musicians with the use of dosimeters.
- Rehearsal and performance habits should incorporate the recommended daily exposure sound levels; use ear plugs if necessary.
- A musician should alert any health care professionals of his/her profession during any routine exam and report any NIHL.
- Health care professionals should pay particular attention to hearing when examining musicians and other performing artists.

*"It's not just music. I drive my motorcycle, mow the lawn, waterski, power boats ... all the fun stuff can damage your ears. Don't stop doing them. Just protect yourself while doing them. I now wear ear protection and wished I got them years ago. Earplugs are essential."*

—Paul Dean, *Loverboy*

## More Information

1. Chesky K. 2010. Measurement and Prediction of Sound Exposure Levels by University Wind Bands. *Medical Problems of Performing Artists*: 25(1). 29-34.
2. National Center for Chronic Disease Prevention and Health Promotion—CDC. Noise induced hearing loss - Promoting hearing health among youth. <http://www.cdc.gov/HealthyYouth/noise/index.htm>



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