

Basic Information on Hearing Health

**Information and Recommendations
for Faculty and Staff in
Schools of Music**

National Association of Schools of

Basic Information on Hearing Health:

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3. Acknowledgements

NASM and PAMA acknowledge with gratitude the efforts of the many past and present professionals in various medical, research, and music-related fields who developed the scientific and practical information summarized in this set of resources. They express appreciation to the members of PAMA, NASM, and the American Academy of Audiology who made comments and suggestions on drafts of this and other documents in this Web resource.

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Charting an effective course to promote and provide the best environment for hearing health means working with many issues and forces beyond providing information for students, faculty, and administrators.

To be successful, a comprehensive hearing health program needs to be sustained from year to year.

This resource provides the basis for instructional efforts to provide information and develop a plan for supporting hearing health with a particular focus on minimizing conditions that could contribute to noise-induced hearing loss.

Basic Facts

Music, Noise, and Loudness Levels

Music is not noise, at least not to musicians.

So why are we talking about **Noise-Induced Hearing Loss** in a music setting?

How are



Noise Levels and Risk

Prolonged exposure to any noise or sound over 85 decibels can cause hearing loss. A decibel, defined by Merriam-Webster as “a unit for expressing the relative intensity of sounds on a scale from 0 for the average least perceptible sound to about 130 for the average pain level” is abbreviated “dB.”

The longer one’s exposure to a loud noise, the greater the potential for hearing loss.

The closer a person is to the source of a loud noise, the greater the risk for damage to the hearing mechanisms.

Consider these common sounds and their corresponding decibel levels:

30 dB – A Whisper

50 dB – Moderate Rain

60 dB – The Average Conversation

70 dB – Passing Freeway Traffic

80 dB – Alarm Clock

90 dB – Blender, Food Processor, Blow-Dryer; The Subway

100 dB - MP3 Players at Full Volume; Lawnmower, Snowblower

110 dB – Rock Concerts and Sporting Events; Power Tools

120 dB – Jet Planes at Take Off

130 dB – Sirens; Race Cars; Jackhammers

140 dB –

Exposure Times and Risk

Two U.S. federal agencies that institute policies and enforce regulations related to on-the-job hearing health are the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH), a branch of the Centers for Disease Control and Prevention (CDC). By and large, the NIOSH standards are stricter, and they recommend shorter exposure times to sound environments with elevated decibel levels.

Recommended Maximum Daily Exposure Times to Instances of Continuous Noise at Various Decibel Levels*

Decibel Level	NIOSH	OSHA
85 dB	8 hours	16 hours
88 dB	4 hours	10.6 hours
91 dB	2 hours	7 hours
94 dB	1 hour	4.6 hours
97 dB	30 minutes	3 hours
100 dB	15 minutes	2 hours

Musicians and Risk of Noise-Induced Hearing Loss

Two facts are clear:

- Acute hearing and aural perception are essential for musicians.
- Noise-induced hearing loss is preventable.

Two conclusions are obvious:

- Musicians have basic hearing health responsibilities.
- Sound-level management is a critically important addition to the musician's portfolio of essential disciplines.

Basic Information on Hearing Health:

Sound-

Basic Protection for Musicians

On stage and in life, it is important for musicians to take steps to protect their hearing. Sometimes, however, it is not possible or preferable to completely avoid a loud sound or noisy environment. At these times, musicians and music faculty may wish to explore the following methods of hearing protection:

Basics Music Professionals Need to Know and Be Able to Do

- Understand and share with others the risks inherent in excessive high-decibel sound igh

- Apply carpet to the floors of problematic rehearsal rooms to help absorb sound.
- Place acoustical shields in front of the brass and percussion sections to protect the hearing of the musicians directly in front of these sections.
- Consider making performance-grade earplugs available to students, either on a complimentary basis or for purchase.
- Place treble brass musicians on risers. This way, higher frequency sound waves, such as those played by a trumpet player, will go over the heads of the musicians in the sections in front of them.
- Elevate loudspeakers to near ear level so that they provide musicians with better sound quality at lower levels of intensity.

Resources – Information and Research

NASM-PAMA Resource Documents and Orientation Materials

[Information and Recommendations for Administrators and Faculty in Schools of Music](#)

Protect Your Hearing Every Day: Information and Recommendations for Student Musicians
A Sample Order and Script for Music Student Orientation

[Standard Version](#)

[Version for Customization](#)

Student Text Version of the Orientation Script

[Standard Version](#)

[Version for Customization](#)

Protecting Your Hearing Health: Student Information Sheet on Noise-Induced Hearing Loss

[Standard Version](#)

[Version for Customization](#)

Hearing Health Project Partners

National Association of School of Music (NASM)

<http://nasm.arts-accredit.org/>

Performing Arts Medicine Association (PAMA)

<http://www.artsmed.org/index.html>

Health and Safety Standards Organizations

American National Standards Institute (ANSI)
(<http://www.ansi.org/>)

The National Institute for Occupational Safety and Health (NIOSH)
(<http://www.cdc.gov/niosh/>)

Occupational Safety and Health Administration (OSHA)
(<http://www.osha.gov/>)

Medical Organizations Focused on Hearing Health

American Academy of Audiology
(<http://www.audiology.org/Pages/default.aspx>)

American Academy of Otolaryngology – Head and Neck Surgery
(<http://www.entnet.org/index.cfm>)

American Speech-Language-Hearing Association (ASHA)
(<http://www.asha.org/>)

Athletes and the Arts
(<http://athletesandthearts.com/>)

House Research Institute – Hearing Health
(<http://www.hei.org/education/health/health.htm>)

National Institute on Deafness and Other Communication Disorders –
Noise-Induced Hearing Loss
(<http://www.nidcd.nih.gov/health/hearing/noise.html>)

Other Organizations Focused on Hearing Health

Dangerous Decibels
(<http://www.dangerousdecibels.org>)