

East Tennessee State University

Musicians Health

Musician Health and Safety

Important Information for Student, Faculty, and Community Musicians

This information can also be [viewed as a PDF](#)_blank

Introduction

The Department of Music is pleased to include this information on "Musician Health and Safety" as part of its website for use by faculty, students and area musicians. New accreditation standards established by the National Association of Schools of Music (NASM) require that musicians be aware of performance health and health concerns and that university music schools promote increased awareness of musician health and safety. This health awareness includes information regarding the maintenance of hearing, vocal, and musculoskeletal health and injury prevention. University music departments, across the nation, are taking an active interest in keeping students and faculty informed of the various health and safety issues inherent in performance, practice, and listening. The students of East Tennessee State University are very fortunate to have outstanding medical colleges as part of the campus educational system. Hearing concerns, vocal health, and muscle injury are very much an every day part of our profession and musicians must take an active part in their health and safety.

As you read the information posted below, we want to thank the following individuals and organizations for their guidance and assistance:

Dr. Philip Bagnell, Dean

College of Medicine

East Tennessee State University

Dr. Nancy J. Scherer, Dean

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

Dr. Brenda Louw, Chair

Department of Audiology and Speech-Language Pathology

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

East Tennessee State University

Dr. Bea Owens, Assistant Chair

Department of Physical Therapy

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

Ms. Chaya Nanjundeswaran, Speech Pathologist

Department of Audiology and Speech-Language Pathology

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

Dr. Marc A. Fagelson, Professor of Audiology

Department of Audiology and Speech-Language Pathology

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

Dr. Alison Deadman, Associate Professor of Music

Certified Alexander Techniques Instructor

Department of Music

East Tennessee State University

National Association of Schools of Music

Musician's Health Website

Reston, Virginia

Vocal Health

Tips for a Healthy Voice

The Department of Music thanks:

Ms. Chaya Nanjundeswaran, Speech Pathologist

Department of Audiology and Speech-Language Pathology

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

East Tennessee State University

- Drink plenty of water. Drink 6-8 glasses of water each day to keep your vocal folds lubricated. Avoid beverages that can cause dehydration, such as: coffee, tea, caffeinated and alcoholic beverages.
- Take a vocal nap. It is important to give your voice a break, whenever possible. Just like other muscles the vocal cords can also become fatigued. This can be worsened by yelling or talking in noisy areas. If your voice feels tired, you should take a break.
- Reduce or decrease throat clearing and coughing. Clearing your throat and coughing is similar to slamming the vocal cords together. Excessive throat clearing and coughing can cause vocal cord injury and changes in voice quality. This can result in an increased effort to produce voice. Alternatives to throat clearing are: take a small sip of water, swallow, or gently clear the throat.
- Moderate voice use when sick. It is especially important to decrease vocal use when you are sick, particularly when your voice sounds hoarse or feels tired. Using your voice when irritated can only exacerbate the problem.
- Avoid smoking and smoky areas. Smoking is damaging to the vocal folds. It is well known that smoking leads to lung or throat cancer. Primary and secondhand smoke irritates the vocal folds and causes edema on the vocal folds. This will permanently change voice quality, nature, and voice producing capabilities.
- Vocal warm-ups and cool-downs. Just as with exercise, your vocal folds need to warm-up and cool-down. It is important to add these aspects to your daily routine before and after singing or extended voice use (like teaching or preaching). Voiced lip trills and glides are examples of exercises that will help to get your vocal folds ready to work efficiently, as well as cool-down from extended voice use.
- Coordinate your airflow. Take the time to pause in between talking and take a good breath, instead of waiting until you almost run out of air. Common voice quality - Glottal fry at the end of your sentence.
- Amplification system. Consider using a microphone when you have the need to project your voice and decrease increased effort and strain.
- Physical activity. Increase your physical activity to increase blood flow and oxygen to the muscles involved in voice use. Physical activity will also increase coordination of muscles of breathing and phonation.
- Get adequate rest. Overall adequate physical rest will make voice production easier.
- Listen to your voice. Feeling vocally tired or sounding hoarse, or increased strain to produce your voice is not normal. If you are experiencing any of these symptoms for extended periods of time, please consult an ENT or a Speech pathologist.

Hearing Health

Tips for Healthy Hearing

The Department of Music thanks:

Dr. Marc A. Fagelson, Professor of Audiology

Department of Audiology and Speech-Language Pathology

East Tennessee State University

College of Clinical & Rehabilitative Health Sciences

East Tennessee State University

Considerations Regarding Noise Exposure for Music Students

When discussing the effects of noise exposure it is essential to remember two facts. FIRST, individual susceptibility to the effects of noise is extremely variable - sound levels that can produce minimal hearing loss in one person may impair severely the hearing of another. SECOND, there is currently no reasonable way to predict susceptibility to noise. Because we do not know who is most at-risk, we recommend that all individuals who are exposed to potentially damaging noise take the same precautions. Such precautions include:

- Wear hearing protection when using loud machinery, such as lawn mowers, weed eaters, chainsaws.
- Wear hearing protection during recreational noise exposure, such as riding all-terrain vehicles, or shooting firearms.
- Determine the necessity to acquire musician earplugs. Several different manufacturers and attenuation values are available. Here are a few: Do not use personal stereo devices, such as iPods, mp3 players, etc., with earphones at levels that are high enough for other people to hear the music coming out of your system. The development of earpieces that seal the ear canal puts the onus on the listener to control effectively the sound level to which they are listening. Users of these devices are encouraged to check published information (easily accessible on the web) regarding the sound levels associated with different earphone types, and music players.
 - Etymotic - three models that provide 9, 15, or 25 dB attenuation while maintaining the sound spec true of the music
 - Fender - one model provides 22 dB attenuation
 - Emtec - three custom models that provide 9, 15, or 25 dB attenuation
-
- If you experience pain from a sound, or ringing in the ears from a sound, it is important to take a break from the noise. If you cannot leave the area in which the noise occurs, you should move as far away from the noise source as you can.
- If you experience ringing in the ears that persists into the next day after you have heard a sound, you should seek services from an audiologist in order to determine whether your hearing has changed.
- If you believe your hearing has changed suddenly, it is essential to seek the services of an Ear, Nose, and Throat doctor within 48 hours.
- Many medications increase susceptibility to noise exposure, and therefore heighten the need to use protection when anticipating the presence of high-level sounds. These can be as simple as aspirin, diuretics, and some antibiotics. Contact your doctor regarding these medications.

The Department of Audiology and Speech-Language Pathology is available to ETSU music students, who are concerned about their hearing, to have an audiology screening. There is a small charge of \$20 for which students can get a pure tone air conduction evaluation and a bone conduction test if needed.

East Tennessee State University

Tips for Healthy Hearing

The Department of Music thanks:

The National Association of Schools of Music (NASM)
and Performing Arts Medicine Association (PAMA)

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

Hearing health is essential to your lifelong success as a musician. Your hearing can be permanently damaged by loud sounds, including music. Technically, this is called Noise-Induced Hearing Loss (NIHL). Such danger is constant. Noise-induced hearing loss is generally preventable. You must avoid overexposure to loud sounds, especially for long periods of time.

The closer you are to the source of a sound, the greater the risk of damage to your hearing mechanisms. Sounds over 85dB (your typical vacuum cleaner) in intensity pose the greatest risk to your hearing. Risk of hearing loss is based on a combination of sound or loudness and duration.

Recommended maximum daily exposure times (National Institute for Occupational Safety and Health - NIOSH) to sounds at or above 85 dB are as follows:

- 85 dB (vacuum cleaner, mp3 player at 1/3 column) - 8 hours
- 90 dB (blender, hair dryer) - 2 hours
- 94 dB (mp3 player at 1/2 column) - 1 hour
- 100 dB (mp3 player at full volume, lawnmower) - 15 minutes
- 110 dB (rock concert, power tools) - 2 minutes
- 120 dB (jet planes at take-off) - without ear protection, sound damage is almost immediate

Certain behaviors (controlling volume levels in practice and rehearsal, avoiding noisy environments, turning down the volume) reduce your risk of hearing loss. Be mindful of those mp3 earbuds. See chart above.

The use of earplugs and earmuffs helps to prevent your hearing health.

Day-to-day decisions can impact your hearing health, both now and in the future. Since sound exposure occurs in and out of school, you also need to learn more and take care of your hearing health on a daily, even hourly basis.

It is important to follow basic hearing health guidelines.

It is also important to study this issue and learn more.

If you are concerned about your personal hearing health, talk with a medical professional.

East Tennessee State University

If you are concerned about your hearing health in relationship to your program of study, consult the appropriate contact person at your institution.

This information is provided by the National Association of Schools of Music (NASM) and the Performing Arts Medicine Association (PAMA). For more information, check out the other NASM-PAMA hearing health documents, located on the NASM web site at the following URL link: editor_tblue2http://nasm.arts-accredit.org/index.jsp?page=NASM-PAMA_Hearing_Health

For more information regarding hearing health, The National Association of Schools of Music and the Performing Arts Medicine Association also recommend the following websites:

- National Association of Schools of Music
- Performing Arts Medicine Association
- Acoustic Society of America
- The National Institute for Occupational Safety and Health (NIOSH)
- American Academy of Audiology
- Athletes and the Arts
- Dangerous Decibels

Musculoskeletal Health

Tips for Musculoskeletal Health

The Department of Music thanks:

Dr. Bea Owens, Assistant Chair

Department of Physical Therapy

College of Clinical & Rehabilitative Health Services

East Tennessee State University

Persons choosing a musical career path are exposed to several unique factors that make them susceptible to possible development of upper extremity symptoms. Performers are often required to assume unconventional positions (i.e., a violinist's left arm) and endure intensive use of their upper extremities on a daily basis. The harmful effects of these factors are compounded by the fact that a musical career usually spans a lifetime, resulting in the possibility of 70-80 years of risk for development of symptoms. It is important for musicians to implement safety measures for prevention of injuries and to recognize the signs and symptoms of possible upper extremity dysfunction.

Every musician should seek to understand the risk factors unique to their career and measures available to prevent injury or disabling upper extremity symptoms. To effectively

East Tennessee State University

prevent injury and onset of symptoms in musicians, one must consider possible intrinsic (having to do with your body) and extrinsic (outside forces) contributing factors.

- Intrinsic factors that need to be assessed include age, nutrition, anatomic variations, flexibility, physical strength, size, joint laxity, gender, systemic disease, performance level and playing style.
- Several extrinsic factors can also place musicians at a higher risk for injury or symptoms. These include:
 - Other possible predisposing factors, include an environment that is too hot, too cold, cramped or pressured, or if the musician is involved in hobbies, an occupation, or sports activity that involves repetitive or sustained movement.
 - time and intensity of playing
 - size and shape of the instrument
 - quality of the instrument
-

Symptoms of upper extremity dysfunction can vary considerably from one musician to another. In some cases, the symptoms will only be present during execution of certain techniques, when playing a specific instrument or after playing for extended periods of time. As symptoms worsen, they will tend to be present more often and increase more easily. Symptoms may include

- pain
- tenderness
- swelling
- popping
- snapping
- cramping
- lack of coordination
- tremor

The type of symptoms present will depend on the tissue involved and the severity and type of dysfunction. Musicians, much like other well-trained athletes, are generally very perceptive of changes in their musculoskeletal system, especially if those changes interfere with their ability to play their instrument.

Identification of any signs or symptoms of dysfunction warrants further evaluation and implementation of treatment strategies. These treatment strategies may include:

- rest
- orthotic supports
- medications
- specific exercises
- therapy
- education, and/or
- revision of playing techniques

In extreme cases, surgery may be beneficial. Any specific treatment program should be individualized and directed by a trained medical professional.

East Tennessee State University

Tips for Musculoskeletal Health

The Department of Music thanks:

Dr. Alison P. Deadman, Associate Professor of Music

Certified Teacher of the Alexander Technique, Department of Music

College of Arts and Sciences

East Tennessee State University

- Listen to your body: If you are experiencing extreme muscle fatigue, pain, muscle weakness or numbness address the issue now. These can be warning signs and if ignored you may damage your body to such an extent that you are forced to give up making music. Nobody wants that.
 - There is nothing to be ashamed about – many musicians have to address issues like this.
 - If any of these conditions are chronic (pain nearly all the time) or severe, consult your physician.
 - If you are referred to a specialist or physical therapist you may want to try and find one who works regularly with musicians. Ask music department faculty for names of local specialists who enjoy working with musicians.
 - Talk with your applied teacher about your pain/numbness/weakness and look for ways that you can improve your musical technique to help you.
 - Work with the department's Alexander Technique teacher to discover and lessen excessive tension, encourage relaxation, and improve your alignment/posture. All these can help alleviate the pain and in conjunction with any medical intervention can help you heal and avoid further injury.
- If you experience occasional musculoskeletal discomfort or occasional pain associated with playing:
 - Talk with your applied teacher about this and look for ways that you can improve your musical technique to help you.
 - Take an Alexander Technique class to discover and reduce excessive tension, encourage relaxation, and improve your alignment/posture, or work privately with a local Alexander Technique teacher, and/or attend an Alexander Technique workshop.
 - MUSC1275: Alexander Technique for Musicians is offered every semester (2 credits)
 - American Society for the Alexander Technique – to find a directory of Alexander Technique teachers and workshops [editor_tblue2http://www.amsatonline.org/](http://www.amsatonline.org/)
 - Alexander Technique International – to find a directory of Alexander technique teachers and workshops. [editor_tblue2http://www.ati-net.com/](http://www.ati-net.com/)
- Relaxation is important
 - Take time to relax before you practice, rehearse, or perform. This can be as simple as doing some deep breathing, a little yoga or some "constructive rest" (see [editor_tblue2http://www.harmoniousbodies.com/2012/07/an-alexander-technique-talk-through-for-you-to-use-free](http://www.harmoniousbodies.com/2012/07/an-alexander-technique-talk-through-for-you-to-use-free))

East Tennessee State University

- Make relaxation a part of your daily regimen (especially when you are under stress). Tension is cumulative. If you make relaxation activities part of your daily life, you will reduce the overall tension your body accumulates. When you are feeling stressed, this is the most important time to keep to your relaxation activities as they will help you deal with the stress.
- Take frequent breaks.
 - During practice sessions make a point of getting up (if seated) stretching and walking around the room/along the corridor for a minute or two about every 20 minutes.
 - During rehearsals – when you are not the focus of the rehearsal (i.e. the director is working with another section or you have a break/rest in your music, make a conscious effort to move, breathe, and let go of any tension you notice.
 - During performances – be sure to start a piece with the best relaxed posture that you can. If you tense up during the piece, know that at any break in the music or at the end of the movement you have a choice to let go of the accumulated tension and to re-activate your relaxed posture. Learning how to do this can also help you deal with issues of performance anxiety!
- Learn to practice efficiently. Rather than putting in x number of hours, make your practice efficient and effective, thus reducing the hours you need to spend. Talk with your applied teacher about strategies to make your practicing more focused. Observe how you use your body when you are not making music. For example, if you are a pianist who experiences back pain when you play piano, you will want to look at your posture when you sit at a desk in the classroom, when you sit watching TV, when you sit at the computer – in fact, all the times in the day you are sitting. Improving all these will help you address the pain when you play piano. Instrumentalists with wrist issues may need to look at how they use the computer keyboard as well as how they play their instrument.
 - Madeline Bruser, *The Art of Practicing: A guide to making music from the heart*. New York: Bell Tower, 1999 [Sherrod library – on order]
-
- Vocalists: Good, relaxed posture has a huge effect on your vocal use. If you are experiencing excessive vocal fatigue, reduced range, or other issues; be sure to look at your posture and tension as possible causes. Remember also that how you use your voice in your daily life (speaking) is directly related to how you use it when you sing, so be curious about how you might improve your speaking too.

Make it a priority to learn about and apply ways to take care of your body. Here are some resources to get you started, but the list is not exhaustive. Ask your applied teacher for other suggestions.

- Sherrod Library:
 - Pedro de Alcantara, *Indirect Procedures: A musician's guide to the Alexander Technique*. New York: Oxford University Press, 1997. Sherrod Library RC965.P46 A43 1996
 - *Integrated Practice: Co-ordination, Rhythm, and Sound*. New York: Oxford University Press, 2011. Sherrod Library ML 3820.A43 2011
 - Barbara Conable, *What Every Musician Needs To Know about the Body: The Practical Application of Body Mapping and the Alexander Technique to Making Music*, Columbus, OH: Andover Press, 1998

East Tennessee State University

- Garfield Davies: Care of the Professional Voice: A guide to voice management for singers, actors, and professional vocalists. New York: Routledge 2005. Sherrod Library RF511.S55 D38 2005
- Janet Horvath, Playing (Less) Hurt: An injury prevention guide for musicians. New York: Hal Leonard, 2010. Sherrod Library ML3820.H6 2010
- Lieberman, Julie, The Vocalist's Guide to Fitness, Health, and Musicianship. Woodstock, NY: Homespun Video 1991, Sherrod Library VTR 6583
- Richard Norris, The Musician's Survival Guide: a guide to treating and preventing injuries in instrumentalists. International Conference of Symphony and Opera Musicians, 1993. Sherrod Library RC965.P46 N67 1993

Safety

Tips for Safety and Health

- Instruments - Both school owned and personal instruments are an easy way to catch or pass along a virus. Individuals should make it a point not to perform on another individual's instruments. If you must, use your own mouthpiece and insure you use your own reeds.
- Keep your instrument clean - Users of school owned or rented instruments are more susceptible to infection, especially if those instruments are not clean and maintained properly. Make it a point to clean mouthpieces, flute head joints, bocals, and saxophone necks. There are various cleaning solutions and brushes available for this purpose.
- Wash your hands - another solution to health care and safety is to remember to wash your hands before and after you use your instruments.