

Statement on Health & Safety

STATEMENT ON HEALTH AND SAFETY

A. Introduction & Motivation

Millikin University's School of Music has a vested interest in its students' health and in supporting the University's mission and vision to develop professional success and promote a personal life of meaning and value. Pursuant to this goal, and as required by the National Association of Schools of Music, the following document informs students and faculty of health and safety issues, hazards, and preventive measures in practice, performance, teaching, and listening both in general and as applicable to their specific specializations. Information is presented regarding hearing, vocal and musculoskeletal health, injury prevention, and the proper handling and operation of potentially dangerous materials equipment, and technology.

As part of its regular operation, the School of Music has developed policies, protocols, and procedures to guard against injury and illness in the study and practice of music. Furthermore, the School of Music has developed means of raising awareness among our students and faculty of the connections between musicians' health, the suitability and safety of equipment and technology, and the acoustic and other health-related conditions in the University's practice, rehearsal, and performance facilities.

Nevertheless, it is important to note that individual and corporate health and safety depends largely on personal decisions made by informed individuals. Millikin University and the Millikin University School of Music have health and safety responsibilities, but fulfillment of these responsibilities alone cannot and will not ensure any individual's health and safety outright. Too many factors beyond the University's control are involved.

Each individual is personally responsible for avoiding risk and preventing injuries to themselves before, during, and after study at the Millikin University School of Music. The policies, protocols, and operational procedures developed by the School of Music do not alter or cancel any individual's personal responsibility, or in any way shift personal responsibility for the results of any individual's personal decisions or actions in any instance or over time to the University.

B. Musculoskeletal and Vocal Health and Injury Prevention

Anyone who practices, rehearses, or performs instrumental or vocal music has the potential to suffer injury related to that activity. All musicians are at risk for repetitive motion and other functional injuries. In a 2007 study at Northwestern University, 80% of Freshman music majors had a history of music-induced pain.¹ Instances are most common in guitarists, followed by keyboardists, and then harpists.² Constant use of computer and virtual keyboards (both very hand- and wrist-intensive) compounds the music-related risk factors. Instrumental injuries often include carpal tunnel syndrome, tendinitis, bursitis, and focal dystonia. Incorrect posture, non-ergonomic technique, excessive force, overuse, stress, poor physical condition, and insufficient rest contribute to chronic injuries that can cause great pain, disability, and, in some cases, the end of careers.

¹ Brenda Wristen, "Playing Healthy, Staying Healthy: What Every Musician Needs to Know," *American Music Teacher* 64, no. 1 (2014): 14-16.

² Alice G. Brandfonbrener, "Musculoskeletal Problems of Instrumental Musicians," *Hand Clinics* 19, no. 2 (2003): 231-239.

Pianist Charles Rosen points out that the music one makes will imitate the bodily state of the performer and vice-versa.³ In an effort to produce both a free and unencumbered bodily state and musical expression, the following recommendations are made based on the several sources listed below:

What Instrumentalists Should Do:

In General:

1. Exercise regularly. Avoid strengthening exercises (resistance training, weight-lifting, etc.) choose instead to cross-train by a strict cardio routine and total body fitness.⁴
2. Get adequate rest. Though higher amounts are recommended, at least 6 hours of sleep at night is adequate.
3. Eat a balanced diet. Include vegetables, fruit and whole grains. Avoid caffeinated drinks and alcohol. Pay attention to your own personal dietary needs and restrictions.
4. Maintain body hydration; drink at least two quarts (64 fl. oz.) of water daily.
5. Evaluate other activities. Pains and injuries affecting your music making could be caused by other activities in your daily life. Computer use is notorious for causing afflictions including carpal tunnel syndrome and tendinitis. Utilize ergonomic computer chairs and supports.

When Practicing:

1. Evaluate your technique – pay attention to your body and maintain awareness before you experience pain. Notice if you have a hunched back, if you hunch your shoulders, or if your neck is being carried too far forward. For more assistance in how to maintain awareness and avoid injury, utilize the references at the end of this document.
2. Always warm up. As an athlete would not begin a vigorous physical activity without warming up, a musician must warm up carefully before practice or performance. For instrumentalists, the most important warm-ups happen away from the instrument. Gently stretching muscle groups and easing into stretches for each muscle group helps to circulate blood to all parts of the body important to practice – including the brain.⁵ After stretching, breathing exercises or practicing meditation is important to clearing the mind for an optimal practice session.⁶ Only after both of these should instrument-specific warm-ups begin. When playing such warm-ups, remember these are not performance pieces. Begin slowly and gradually increase speed and dynamic range until you feel sufficiently warmed up.
3. If your instrument requires you to sit, make sure you sit on your “sit bones” not on your thighs. The sit bones are located at the bottom of your pelvis and provide a stable structure to balance your body weight on the bench or chair. Sitting correctly will do much to prevent injuries.

³ Charles Rosen, *Piano Notes: The World of the Pianist*, (New York: Free Press, 2002), 27.

⁴ Nancy Shaw, “*Simple Changes to End Chronic Pain*,” (Seattle: CreateSpace Independent Publishing, 2013).

⁵ Madeline Bruser, *The Art of Practicing: A Guide to Making Music from the Heart*, (New York: Bell Tower, 1999), 30-31.

⁶ For more information and recommendations for breathing exercises, see the books in the resource list.

4. Take regular breaks to stretch and relax. Remember to rest for at least ten minutes every hour. During the hour, take frequent breaks to stretch and walk around. The time lost is made up for by the increased productivity in your session.
5. Pace yourself. “No pain, no gain” is a catastrophic philosophy for a musician. Know when enough is enough, and learn to say “no” to certain performances or lengths of performing that might result in injury.
6. If you are finding that your instrument places undue stress on your body, discuss with your applied instructor various straps, carriers, or stands available to distribute weight.
7. Pay attention to your body. Pain is the mechanism by which your body tells you that something is wrong. Listen to your body; if it hurts, stop what you are doing.
8. Get medical attention. Do not delay in seeing a doctor if pain persists for more than a few weeks. A physician may prescribe a minor adjustment or, in worst-case scenarios, stipulate a different practice and performance routine. A few months of limited playing is better than suffering a permanent, career-ending injury.

What Vocalists Should Do:

In General:

1. Exercise regularly. Avoid strengthening exercises (resistance training, weight-lifting, etc.) choose instead to cross-train by a strict cardio routine and total body fitness.⁷
2. Get adequate rest. At least 6 hours of sleep per night.
3. Eat a balanced diet. Include vegetables, fruit and whole grains. Avoid caffeinated drinks and alcohol. Pay attention to your own personal dietary needs and restrictions.
4. If you do become ill, avoid “talking over your laryngitis” – see your physician and rest your voice.
5. Maintain body hydration; drink at least two quarts of water daily.
6. Evaluate other activities. Pains and injuries affecting your music making could be caused by other activities in your daily life.
7. Avoid dry, artificial interior climates. Using a humidifier at night can compensate for seasonal dryness.
8. Limit the use of your voice. High-ceilinged restaurants, noisy parties, cars, and planes are contexts that can lead to one damaging the voice. If necessary, use amplification for vocal projection.
9. Avoid throat clearing and voiced coughing.
10. Do not yell and avoid hard vocal attacks on initial vowel words.
11. Speak in phrases rather than in paragraphs. Breathe slightly before each phrase.

⁷ See the work of Nancy Shaw – “Simple Changes to End Chronic Pain.”

12. Reduce everyday demands on your voice – listening is just as important as talking.
13. Learn to breathe silently to activate your breath support muscles and reduce neck tension. See “Musician’s Yoga” and “The Art of Practicing” for recommended breathing exercises. Always consult your applied instructor before utilizing breathing techniques.
14. Take full advantage of the two free elements of vocal fold healing: water and air.
- 15.

When Practicing:

1. Vocal athletes must treat their musculoskeletal system as do other types of athletes; therefore, vocal warm-ups should always be used prior to singing. Vocal cool-downs are also essential to keep the singing voice healthy. Gently stretching muscle groups and easing into stretches for each muscle group helps to circulate blood to all parts of the body important to practice – including the brain.⁸ After stretching, breathing exercises or practicing meditation is important to clearing the mind for an optimal practice session.⁹
9. Take regular breaks to stretch and relax. Remember to rest for at least ten minutes every hour. During the hour, take frequent breaks to stretch and walk around. The time lost is made up for by the increased productivity in your session.
10. Pace yourself. “No pain, no gain” is a catastrophic philosophy for a musician. Know when enough is enough, and learn to say “no” to certain performances or lengths of performing that might result in injury.
11. If you are finding that your instrument places undue stress on your body, discuss with your applied instructor various straps, carriers, or stands available to distribute weight.
12. Pay attention to your body. Pain is the mechanism by which your body tells you that something is wrong. Listen to your body; if it hurts, stop what you are doing.
13. Get medical attention. Do not delay in seeing a doctor if pain persists for more than a few weeks. A physician may prescribe a minor adjustment or, in worst-case scenarios, stipulate a different practice and performance routine. A few months of limited playing is better than suffering a permanent, career-ending injury.

B. Mental Health

1. Adequate sleep is critical to support mental wellness. Get a full night’s rest whenever possible. 7-9 hours of sleep whenever possible is supportive of healthy functioning; lack of sleep can be detrimental for your mood, focus and productivity.
2. Avoid caffeine, eating and drinking right before bed. All of these activities can throw off your body’s internal clock, so try to limit meals, alcohol and caffeine consumption to a few hours before bed.
3. Creating a daily routine can be hugely beneficial in reducing stress. It will help you feel less rushed, more organized and more settled.

⁸ Madeline Bruser, *The Art of Practicing: A Guide to Making Music from the Heart*, (New York: Bell Tower, 1999), 30-31.

⁹ For more information and recommendations for breathing exercises, see the books in the resource list.

4. Be realistic. Sometimes it's not possible that you're going to complete all of the tasks you'd like to in one day, and know that is okay. Understand the value of balancing recharging and task completion.
5. Relax with different self-care activities. Having a few different activities at your disposal is key. Examples might look like taking time to meditate, get out in nature, participate in creative activities, see a new production, and more.
6. Take time regularly to ensure that you are caring for yourself socially, emotionally and physically. If one of those areas is lacking, what can you do to mediate that?
7. Keep in touch with family and friends and take some time to spend time with your support system. Building new friendships and supports on campus is also very beneficial.
8. Light exercise supports your overall emotional well-being. Taking walks, stretching, yoga, or any other physical activity you enjoy are helpful to incorporate into your routine.
9. Consider what you are putting into your body on a daily basis. Are you drinking tons of caffeine or eating a lot of sugary foods for energy support? Doing so can ultimately cause a *decrease* in energy, increase in anxiety and affect overall mood detrimentally. Be sure to eat balanced meals most of the time and get the nutrients your body needs to function properly.
10. Drink moderately and responsibly if you choose to consume alcohol. Alcohol is a depressant and its affects can alter your mood significantly, especially when used frequently and to excess. If you are unsure whether or not you have a problem with alcohol or another substance, you are highly encouraged to seek confidential support from the Student Behavioral Health and Wellness Center on campus.
11. Take advantage of campus resources. The Center for Academic and Professional Performance has resources available to help you with academic mentoring and accommodations. Call them to set up an appointment at 217-362-6424. Student Mental and Behavioral Health offers free and confidential counseling to all currently enrolled Millikin University students. They can help you navigate many concerns, including stress, substance abuse, depression, anxiety and more. Call them to set up an appointment at 217-424-6360.

C. Noise-Induced Hearing Loss "The Problem"

We experience sound in our environment, such as the sounds from television and radio, household appliances, and traffic. Normally, we hear these sounds at safe levels that do not affect our hearing. However, when we are exposed to harmful noise-sounds that are too loud or loud sounds that last a long time-sensitive structures in our inner ear can be damaged, causing noise-induced hearing loss (NIHL). These sensitive structures, called hair cells, are small sensory cells that convert sound energy into electrical signals that travel to the brain. Once damaged, our hair cells cannot grow back. NIHL can be caused by a one-time exposure to an intense "impulse" sound, such as an explosion, or by continuous exposure to loud sounds over an extended period of time.

The problem is far more common than you might think. A 2007 study by the Performing Arts Medicine Association found that 63% of music students reported NIHL in its early stages (tinnitus) and also discovered that all music students exceed their allowable "daily dose" of sound – regardless of instrument.¹⁰ This excess is about 17,000% of recommended sound intake per day. A survey of professionals found the highest instances of hearing damage were in brass players, followed by woodwinds, strings, and then those sitting in front of percussion sections of an ensemble (this is because the decibel level in percussion instruments can reach the extremely dangerous level of 140 decibels – instantaneous hearing loss).¹¹

¹⁰ Janet Horvath, *Playing (Less) Hurt: An Injury Prevention Guide for Musicians*, (New York: Hal Leonard Corporation, 2010), 123.

¹¹ *Ibid.*, 124.

The humming of a refrigerator is 45 decibels, normal conversation is approximately 60 decibels, and the noise from heavy city traffic can reach 85 decibels. Sources of noise that can cause NIHL include motorcycles, firecrackers, and small firearms, all emitting sounds from 120 to 150 decibels. Long or repeated exposure to sounds at or above 85 decibels can cause hearing loss. The louder the sound, the shorter the time period before NIHL can occur.

In a traditional symphony orchestra, the upper woodwinds reach dB levels from 111-145, Brass from 106-139, and strings from 85-100 dB – these levels are dangerous when exposure lasts for more than a few minutes. An individual's daily dosage of sound ought to equal 85 dB over eight hours – equivalent to the sound of one playing one's own viola solo in a practice room. Obviously, musicians are at a high risk for NIHL.

Among musicians, the first symptoms of NIHL are a lack of discernment of pitch and intonation, interpretation of dynamics, and measurement of shades of color and timbre.¹² It is very important to understand that the hair cells in your inner ear cannot regenerate. Damage done to them is permanent. There is currently no way to repair or undo this damage. If you feel you may be experiencing NIHL, speak with your applied instructor right away.

Prevention Strategies:

1. Utilize hearing protection when playing in an ensemble or when practicing for long periods of time. Etymotic Research offers custom-designed Musician's Earplugs that can be found at local audiologists' offices.
2. Practice at half-dynamic.
3. Alternate repertoire while practicing – shift between quiet and loud sections and pieces.
4. Minimize unnecessary sound exposure – this can include volume of the radio and personal electronic devices, loud restaurants and parties, when using electric appliances.
5. Hum before an expected loud noise. Whether a cymbal crash or sforzando, a slight hum before and during the sound blocks the ear's ability to take in new sound.
6. Stop smoking. Smoking more than doubles the risk of NIHL.¹³

Conclusion

According to the American Academy of Audiology, approximately 26 million Americans have hearing loss. One in three developed their hearing loss as a result of exposure to noise. As you pursue your day-to-day activities, both in the Department of Music and in other educational, vocational, and recreational environments, remember:

1. Hearing health is essential to your lifelong success as a musician.
2. Your hearing can be permanently damaged by loud sounds, including music. This danger is constant.
3. Noise-induced hearing loss is generally preventable. You must avoid overexposure to loud sounds, especially for long periods of time.

¹² Ibid., 125.

¹³ Ibid., 140.

4. The closer you are to the source of a loud sound, the greater the risk of damage.
5. Sounds over 85 dB in intensity pose the greatest risk to your hearing.
6. Recommended maximum daily exposure times to sounds at or above 85 dB are as follows: 85 dB (vacuum cleaner, MP3 player at 1/3 volume) - 8 hours 90 dB (blender, hair dryer) - 2 hours 94 dB (MP3 player at 1/2 volume) - 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 when sounds are over 120 dB, sound damage is almost immediate.
7. The use of earplugs (Musician's Earplugs, Sensaphonics, ProGuard, Sensorcom) helps to protect your hearing health.
8. If you are concerned about your personal hearing health, talk with a medical professional.
9. If you are concerned about your hearing health in relationship to your study of music, consult with your applied instructor, ensemble conductor, or advisor.

Further resources:

Klickstein, Gerald. *The Musician's Way: A Guide to Practice, Performance, and Wellness*. New York: Oxford UP, 2009. <http://www.musiciansway.com>

Mark, Thomas. *What Every Pianist Needs to Know about the Body: A Manual for Players of Keyboard Instruments*. Chicago: GIA Publications, 2003. <http://www.pianomap.com>

Conable, Barbara. *What Every Musician Needs to Know About the Body*. Chicago: GIA Publications, 2000. <http://www.bodymap.org>

Horvath, Janet. *Playing (Less) Hurt: An Injury Prevention Guide for Musicians*. New York: Hal Leonard Corporation, 2010. <http://www.playinglesshurt.com>

Olson, Mia. *Musician's Yoga: A Guide to Practice, Performance, and Inspiration*. Boston: Berklee Press, 2009.

Bruser, Madeline. *The Art of Practicing: A Guide to Making Music from the Heart*. New York: Bell Tower, 1999. <http://www.artofpracticing.com>