



**Department of Performing & Fine Arts**

**Music Program**

**Musician Health  
and  
Safety Resource Manual**

## **Table of Contents**

- I. Hearing Health and Safety Policy**
- II. Hearing, Vocal and Neuromusculoskeletal Health and Safety**
- III. Music Health and Safety**
- IV. Protecting Your Hearing Health**
- V. Protecting Your Neuromusculoskeletal Health**
- VI. Protecting Your Vocal Health**
- VII. Related Health Websites**
- VIII. Performance Injuries**
  - A. What instrumentalists should do?**
  - B. What singers should do?**
  - C. What all FSU Musicians should do**
- IX. Department-Owned Instruments**
- X. Noise-Induced Hearing Loss**
- XI. Other Resources and Links**
- XII. FSU PFA Music Program - Notification of Information Form**



# I. Hearing Health and Safety Policy

## Purpose

The purpose of this policy is to protect and provide information to students faculty, staff and visitors of the Music program in the Department of Performing and Fine Arts at Fayetteville from possible noise-induced hearing impairment by establishing a comprehensive hearing Health and Safety program and to comply with NASM/PAMA recommendations. This policy will also ensure compliance with the Occupational Safety and Health administration's (OHSA) Standard 29 CFR 1910.95.

## Scope

The Hearing Health and Safety Policy and program apply to all Fayetteville State university music faculty, staff, students, and visitors of the department of performing and Fine arts.

## Policy

The Department of performing and fine arts –Music program will take the actions outlined in this policy to assure that faculty, staff, students, and visitors work, learn and enjoy music in an environment that will not adversely affect their hearing.

## Background

- A. PFA-Music program will consider noise control devices when purchasing equipment, so that new equipment will operate at less than 80 dBA.
- B. When maintaining, repairing or replacing existing equipment, the PFA-Music program will determine if engineering solutions can reduce excessive noise levels above 80 dB.

## Responsibility and Procedure

### A. Health, Safety and Training

1. The department will conduct a hearing, vocal and neuromusculoskeletal health and safety informational session during the first full week each semester for all music majors and during new faculty orientation sessions as necessary.
2. Will provide current information about issues and preventive measure of the hearing, vocal, and neuromusculoskeletal health in the Rosenthal building and in Seabrook Auditorium, via the department website and the departmental handbook.
3. Will provide plug type hearing protectors that will provide acceptable attenuation characteristics for the environment to which the faculty, staff, and students are subject.
4. Will perform periodic monitoring of sound levels throughout the Rosenthal Building to make sure that sound levels don't increase above a level of 85 db for an extended period of exposure time beyond of two

(2) hours in a given rehearsal or class time.

5. Will determine areas in which noise levels are at or above 85 db or greater, and post warning signs. (i.e. this area has been measured to have the possibility of noise levels exceeding 85db. (Hearing protection is recommended and are available in the PFA Departmental office, Band and Choral offices for your protection)

6. Establish an informational training/orientation program and conduct annually for all faculty, staff and students. Informational program shall include:

- a. Provide a forum with a ENT/Medical Professional
- b. The effects of noise on hearing.
- c. Purpose of hearing protection devices offered, advantages, disadvantages, and attenuation characteristics.
- d. Proper use and maintenance of hearing protectors.

#### B. Dept. of Campus Facilities and/or Center for Personal Development and Health

1. Will schedule and conduct audiograms for students, faculty and staff of the PFA Music Program that is identified or by request.
2. Maintain records of all audiometric test results for person identified above.

#### C. Department Chair

1. Assists safety staff to reduce noise levels to lowest level possible.
2. Assure compliance with this guideline in all affected areas within department.
3. Cooperate in freeing employees to come to Program Administrator for testing.
4. Will adhere to testing schedules prepared by medical.
5. Will encourage the use of personal protective equipment (hearing protection) in spaces that have been identified as possible hazardous to excessive noise levels.

#### E. Students, Faculty and Staff

1. Will wear hearing protection if they are in areas with noise levels at a TWA of 85 dbA or greater if needed.
2. You will participate in an informational and orientation session regarding hearing, vocal, and neuromusculoskeletal health of a musician.
3. Receive a copy of the Fayetteville State University Department of Performing and Fines Arts Music program Musicians Health and Safety Resource Manual.

## II. Hearing, Vocal and Neuromuculoskeletal Health and Safety

# Information Program

## Purpose

The purpose of this program is to provide information and awareness to students, faculty, staff and visitors of the department of music of Hearing, Neuromusculoskeletal and Vocal Health concerns and preventive measures.

## Scope

The Hearing, Vocal and Neuromusculoskeletal Health and Safety program applies to all Fayetteville State University Department of Performing and Fine Arts Music Program faculty, staff, students and visitors.

### **A. Health, Safety and Training**

1. The department will conduct a hearing, vocal and neuromusculoskeletal health and safety informational session during the first full week each semester for all music majors and during new faculty orientation sessions as necessary.
2. Will provide current information about issues and preventive measure of the hearing, vocal, and neuromusculoskeletal health in the Rosenthal building and in Seabrook Auditorium, via the department website and the departmental handbook.
3. Establish an informational training/orientation program and conduct annually for all faculty, staff and students. Informational program shall include:
  - a. Provide a forum with a ENT/Medical Professional
  - b. The effects of noise on hearing.
  - c. Purpose of hearing protection devices offered, advantages, disadvantages, and attenuation characteristics.

### **B. Students, Faculty and Staff**

1. Will wear hearing protection if they are in areas with noise levels at a TWA of 85 dbA or greater if needed.

### III. Musician Health and Safety

The Fayetteville State University Department of Performing & Fine Arts Music Program, as required by the National Association of Schools of Music, is obligated to inform students and faculty of health and safety issues, hazards, and procedures inherent in practice, performance, teaching and listening both in general and as applicable to their specific specializations. This includes but is not limited to information regarding hearing, vocal and musculoskeletal health, injury prevention, and the use, proper handling and operation of potentially dangerous materials, equipment and technology. This also includes instruction on the use, proper handling, and operation of potentially dangerous materials, equipment, and technology as applicable to specific program offerings or experience.

The Music Program has developed policies, protocols, and operational procedures to guard against injury and illness in the study and practice of music, as well as to raise the awareness among our students, faculty and visitors 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.

Individuals are personally responsible for avoiding risk and preventing injuries to themselves before, during, and after study, employment or visits in the Fayetteville State University Department of Performing & Fine Arts Music Program. The policies, protocols, and operational procedures developed by the department do not alter or cancel any individual's personal responsibility to make responsible personal decisions. They serve only to better educate and inform the students and faculty of the Music Program.

*NOTE: Health and safety depend in large part on the personal decisions of informed individuals. Institutions have health and safety responsibilities, but fulfillment of these responsibilities can and will not ensure any specific individual's health and safety. Too many factors beyond any institution's control are involved. Individuals have a critically important role and each is personally responsible for avoiding risk and preventing injuries to themselves before, during, and after study or employment at any institution. The NASM standards above and applicable guidelines below, and institutional actions taken under their influence or independently 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 any institution, or to NASM.*

Source: National Association of Schools of Music Handbook 2011-2012

The department has adopted an approach that provides appropriate information on Musician Health and Wellness in the following fashion:

- The Music Program has developed a Musicians Health and Safety Resource Manual that is a part of the student and departmental handbook.
- Policies and procedures on Hearing health conservation/prevention
- A Health and Wellness Information Board providing current and recent topics, findings, articles, and research on musicians' health issues and preventions.
- Health and prevention statements specifically related to each individual course included in each course syllabus.
- A departmental orientation session at the beginning of each semester for all new and returning students.
- At this meeting, among other topics, handouts on Musician Health and Wellness is distributed and discussed.
- During the academic year, a health care professional (ENT) Ear, Noise and Throat will visit as needed.
- Signage for rooms, performance halls and ensemble rooms indicating possible maximum decibel exposure levels only if it exceeds the normal level required by OSHA.
- For students who operate specific machinery related to operations of the Department of Music, moving pianos, or raising and lowering of risers in the recital hall, specific training shall be given training and guidelines for safe use.
- Provide and encourage the use of free earplugs in those ensembles in which sound levels typically approach thresholds for hearing loss.
- Links to information on Musician Health and Wellness can be found on the Music Program's website. This information outlines information regarding hearing, vocal and musculoskeletal health and injury prevention (see below).

It is important for all musicians to make themselves aware of the particular health issues that relate to their instrument or voice. The articles below deal with common health concerns for anyone studying and performing in the music field. Taking proper steps now to avoid health problems will pay off in the future. Performance injuries and poor practice and performance habits can result in career-ending trauma later in life.

## IV. Protecting Your Hearing Health

### An NASM–PAMA Student Information Sheet 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 loud sound, the greater the risk of damage to your hearing mechanisms. Sounds over 85 dB (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 intensity and duration.

#### **Recommended maximum daily exposure times (NIOSH) 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 takeoff) –without ear protection, sound damage is almost immediate

#### **OSHA regulations of “maximum exposure by amplitude, beyond which hearing protection is required.”**

Duration of Exposure	Average Amplitude
8 hours	90 dB
6 hours	92 dB
4 hours	95 dB
3 hours	97 dB
2 hours	100 dB
1.5 hours	102 dB
1 hours	105 dB
.5 hours	110 dB
.25 hours	115 dB

Source: Scott McCoy, *Your Voice: An Inside View*, 2 ed. (Delaware: Inside View Press), 173

#### **Sound levels of Various Instruments**

Violin	84-103 dB
Cello	84-92 dB
Piccolo	95-112 dB
Flute	85-111 dB
Clarinet	92-103 dB
French Horn	90-106 dB
Oboe	80-94 dB
Trombone	85-114 dB
Xylophone	90-92 dB

Source: Robert Thayer Sataloff, *Vocal Health and Pedagogy*. (San Diego: Singular Publishing Group, Inc.), 141

- \*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 ear buds. See chart above.
- \*The use of earplugs and earmuffs helps to protect 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 own 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.
- \*If you are concerned about your hearing health in relationship to your program of study, consult the appropriate contact person at your institution.

The National Association of Schools of Music (NASM) and the Performing Arts Medicine Association (PAMA) provide this information. For more information, check out the other NASM-PAMA hearing health documents, located on the NASM Web site at the URL link:

<https://nasm.arts-accredit.org/publications/brochures-advisories/nasm-pama-hearing-health/>

## V. Protecting Your Neuromusculoskeletal Health

### **An NASM–PAMA Student Information Sheet**

Neuromusculoskeletal health is essential to your lifelong success as a musician. Practicing and performing music is physically demanding. Musicians are susceptible to numerous neuromusculoskeletal disorders. Some musculoskeletal disorders are related to behavior; others are genetic; still others are the result of trauma or injury.

Some genetic conditions can increase a person’s risk of developing certain behavior-related neuromusculoskeletal disorders. Many neuromusculoskeletal disorders and conditions are preventable and/or treatable. Sufficient physical and musical warm-up time is important. Good posture and correct physical Techniques are essential.

Regular breaks during practice and rehearsal are vital in order to prevent undue physical stress and strain. It is important to set a reasonable limit on the amount of time that you will practice in a day. Avoid sudden increases in practice times.

Know your body and its limits, and avoid “overdoing it.”  
Safeguard your physical and mental health.

Maintain healthy habits.

Day-to-day decisions can impact your neuromusculoskeletal health, both now and in the future. Since muscle and joint strains and a myriad of other injuries can occur in and out of school, you also need to learn more and take care of your own neuromusculoskeletal health on a daily basis, particularly with regard to your performing medium and area of specialization.

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

## VI. Protecting Your Vocal Health

### **An NASM–PAMA Student Information Sheet**

Vocal health is important for all musicians and essential to lifelong success for singers. Understanding basic care of the voice is essential for musicians who speak, sing, and rehearse or teach others.

Practicing, rehearsing, and performing music is physically demanding. Musicians are susceptible to numerous vocal disorders. Many vocal disorders and conditions are preventable and/or treatable.

Sufficient warm-up time is important. Begin warming up mid-range, and then slowly work outward to vocal pitch extremes. Good posture, adequate breath support, and correct physical technique are essential. Regular breaks during practice and rehearsal are vital in order to prevent undue physical or vocal stress and strain.

It is important to set a reasonable limit on the amount of time that you will practice in a day. Avoid sudden increases in practice times. Know your voice and its limits, and avoid overdoing it or misusing it. Maintain healthy habits. Safeguard your physical and mental health. Drink plenty of water in order to keep your vocal folds adequately lubricated. Limit your use of alcohol, and avoid smoking.

Day-to-day decisions can impact your vocal health, both now and in the future. Since vocal strain and a myriad of other injuries can occur in and out of school, you also need to learn more and take care of your own vocal health on a daily basis. Avoid shouting, screaming, or other strenuous vocal use. If you are concerned about your personal vocal health, talk with a medical professional.

If you are concerned about your vocal 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 neuromusculoskeletal health documents, located below

## VII. Related Health Websites

## **Neuromusculoskeletal and Vocal 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>)

PAMA Bibliography (search tool) (<http://www.artsmed.org/bibliography.html>)

## **Organizations Focused on Neuromusculoskeletal and Vocal Health**

American Academy of Neurology (<http://www.aan.com>)

American Academy of Orthopedic Surgeons (<http://www.aaos.org>)

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

American Association for Hand Surgery (<http://www.handsurgery.org>)

American Laryngological Association (<http://www.alahns.org>)

American Physical Therapy Association (<http://www.apta.org>)

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

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

National Association of Teachers of Singing (<http://www.nats.org>)

## **VIII. PERFORMANCE INJURIES**

Anyone who practices, rehearses or performs instrumental or vocal music

has the potential to suffer injury related to that activity. Instrumental musicians are at risk for repetitive motion injuries. Sizable percentages of them develop physical problems related to playing their instruments; and if they are also computer users, their risks are compounded. Instrumental injuries often include carpal tunnel syndrome, tendinitis, and bursitis. Incorrect posture, non-ergonomic technique, excessive force, overuse, stress, and insufficient rest contribute to chronic injuries that can cause great pain, disability, and the end of careers.

Like athletes, musicians perform for the public; and like professional athletes, they could lose their jobs if they do not perform. Published calculations reports that over the course of their careers, as many as 76% of orchestra musicians have suffered, or will suffer, some debilitating condition which will affect their ability to perform on their instruments.

#### A. WHAT INSTRUMENTALIST SHOULD DO

The Department of Music wishes to thank the Associated Board of the Royal Schools of Music and the Canadian Network for Health in the Arts for the following information:

1. **Evaluate your technique.** Reduce force, keep joints in the middle of their range of motion, use large muscle groups when possible, and avoid fixed, tense positions.
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.
3. **Take breaks to stretch and relax.** Take short breaks every few minutes and longer breaks each hour. Two or more shorter rehearsals each day are more productive than marathon single sessions. Even in performance, find those opportunities to relax a hand, arm, or embouchure to restore circulation.
4. **Pace yourself.** No pain, no gain is a potentially 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.
5. **Check out your instrument.** Does your instrument place undue stress on your body? Is your instrument set up optimally for you to relieve pressure on hands, joints, etc.? Is there a strap, carrier, or stand available to relieve the stress?
6. **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.
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. A physician may prescribe a minor adjustment or, in worst-case scenarios, stipulate not performing for a period of time. As drastic as this may sound, a few months of rest is better than suffering a permanent, career ending injury. Likewise, the demands placed on singers' voices are immense. Hardly a month goes by where a top singer is not forced to interrupt a tour, take a break, or undergo a medical procedure due to problems with their voice. Medical professionals are making the case that the demands put on one's voice when singing one to three hours is as intense as those made on an Olympic marathon runner's body. Additional factors such as nutrition, smoking, drug use, noisy environments, and proper voice training (or the lack of it) all play a role in a singer's ability to perform at her/his best.

#### B. WHAT SINGERS SHOULD DO

The Performing and Fine Arts Department- Music Program wishes to thank The Singer's Resource, the Texas Voice Center, Houston, and the University of Michigan Vocal Health Center for the following information:

1. **Maintain good general health.** Get adequate rest to minimize fatigue. If you do become ill, avoid "talking over your laryngitis" - see your physician and rest your voice.
2. **Exercise regularly.**
3. **Eat a balanced diet.** Including vegetables, fruit and whole grains, and avoid caffeinated drinks (coffee, tea, and soft drinks) and alcohol. Avoid spicy, acidic, and dairy foods if you are sensitive to them.
4. **Maintain body hydration;** drink two quarts of water daily.
5. **Avoid dry, artificial interior climates.** Las Vegas has an average daily humidity of 36%, a relatively low amount of moisture. Using a humidifier at night might compensate for the dryness.
6. **Limit the use of your voice.** High-ceilinged restaurants, noisy parties, cars and planes are especially damaging to the voice. If necessary, use amplification for vocal projection.
7. **Avoid throat clearing and voiced coughing.**
8. **Stop yelling, and avoid hard vocal attacks on initial vowel words.**
9. **Adjust the speaking pitch level of your voice.** Use the pitch level in the same range where you say, "Umm-hmm?"
10. **Speak in phrases rather than in paragraphs.** Breath slightly before each phrase.
11. **Reduce demands on your voice** - don't do all the talking!
12. **Learn to breathe silently to activate your breath support muscles and reduce neck tension.**
13. **Take full advantage of the two free elements of vocal fold healing: water and air.**
14. **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.

## C. WHAT ALL FSU MUSICIANS SHOULD DO

1. **Stay informed.** Awareness is the key. Like many health-related issues, prevention is much easier and less expensive than cures. Take time to read available information concerning injuries associated with your art.
2. **Musicians might find the following books helpful:**  
 Conable, Barbara. *What Every Musicians Needs to Know About the Body* (GIA Publications, 2000)  
 Klickstein, Gerald. *The Musician's Way: A Guide to Practice, Performance, and Wellness* (Oxford, 2009)  
 Norris, Richard N. *The Musician's Survival Manual* (International Conference of Symphony and Opera Musicians, 1993).
3. **The following links may be useful:**  
[Associated Board of the Royal Schools of Music](#) (ABRSM), the world's leading authority on musical assessment, actively supporting and encouraging music learning for all.  
[Performing Arts Medicine Association](#) (PAMA), an organization comprised of dedicated medical professionals, artists educators, and administrators with the common goal of improving the health care of the performing artist.  
[Texas Voice Center](#), founded in 1989 for the diagnosis, treatment, and prevention of voice disorders.  
[National Center for Voice and Speech](#) (NCVS), conducts research, educates vocologists, disseminates information about voice and speech, and provides referral services in order to help people around the world enjoy healthy and effective vocal communications.  
[Vocal Health Center](#), University of Michigan Vocal Health Center is recognized locally, regionally and nationally as a leading center for vocal health disorders. At the heart of the Center is a professional team comprised of experts from the University of Michigan Health System and University of Michigan Department of Voice, encompassing the fields of Laryngology, Speech Pathology, and Vocal Arts.

## **IX. Department-Owned Instruments**

The Department of Music maintains a collection of musical instruments for checkout and use by members of the music faculty and students enrolled in our courses and performing ensembles. As with other items we use in the course of our daily lives, musical instruments must be cared for properly and cleaned regularly. Each instrument in the School's collection receives a thorough inspection at the conclusion of the academic year. Every year, thousands of dollars are spent to clean, adjust, and return instruments to full playing condition.

### **Antiseptically Clean**

More and more our society is pushing for products that are anti-fungal, anti-bacterial and anti-viral. Some even go the next step further aiming to achieve sterile. However, our bodies by design are not meant to live in a sterile environment. As kids we played in the dirt, ate bugs and countless other things and became stronger because of it. Keep in mind that total sterility is a fleeting moment. Once a sterile instrument has been handled or exposed to room air it is no longer considered to be sterile. It will however remain antiseptically clean until used.

Most viruses cannot live on hard surfaces for a prolonged period of time. Some die simply with exposure to air. However, certain groups are quite hardy. Therefore, musicians must be concerned with instrument hygiene. Users of school owned and rented musical equipment might be more susceptible to infections from instruments that are not cleaned and maintained properly.

If the cleaning process is thorough, however, musical instruments will be antiseptically clean. Just as with the utensils you eat with, soap and water can clean off anything harmful. Antibacterial soaps will kill certain germs but all soaps will carry away the germs that stick to dirt and oils while they clean. No germs/ no threat.

### **Infectious Disease Risks**

Sharing musical instruments is a widespread, accepted practice in the profession. However, recent discussion in the profession has included concern regarding shared musical instruments and infectious disease, especially HIV.

The Centers for Disease Control (CDC), has confirmed that there is no risk of transmission of HIV (the virus that causes AIDS), or Hepatitis B (HBV) through shared musical instruments. The reasons for this are that these diseases are passed via a blood-to-blood, sexual fluid or mucous membrane contact. There has been no case of saliva transmission of HIV (the virus that causes AIDS), or Hepatitis B (HBV).

### **Instrument Hygiene**

While the possibility of transmission of the above bacteria and viruses is not a real consideration, it is apparent that there should be a protocol with regard to shared musical instruments. Sharing of instruments is routine in music schools, where students practice and perform on borrowed instruments throughout the year. In our discussion with our consultants, certain basic considerations and recommendations for standard operating procedures regarding shared instruments were recommended as follows:

- A. All musicians or students should have their own instrument if possible.

- B. All musicians or students should have their own mouthpiece if possible.
- C. All students and faculty sharing reed instruments MUST have their own individual reeds. Reeds should NEVER be shared.
- D. If instruments must be shared in class, alcohol wipes or Sterisol germicide solution (both available from the Department of Music) should be available for use between different people. When renting or using a Department-owned musical instrument, each user must understand that regular cleaning of these musical instruments is required in order to practice proper hygiene. The student must initial and date the following statement upon checkout of the institutionally owned wind instrument.

### **Mouthpieces**

The mouthpiece (flute headjoint), English Horn and bassoon bocal, and saxophone neck crook) are essential parts of wind instruments. As the only parts of these instruments placed either in or close to the musician's mouth, research has concluded that these parts (and reeds) harbor the greatest quantities of bacteria. Adhering to the following procedures will ensure that these instrumental parts will remain antiseptically clean for the healthy and safe use of our students and faculty.

### **Cleaning the Flute Head Joint**

1. Using a cotton swab saturated with denatured, isopropyl alcohol, carefully clean around the embouchure hole.
2. Alcohol wipes can be used on the flute's lip plate to kill germs if the flute shared by several players.
3. Using a soft, lint-free silk cloth inserted into the cleaning rod, clean the inside of the headjoint.
4. Do not run the headjoint under water as it may saturate and eventually shrink the headjoint cork.

### **Cleaning Bocals**

1. Bocals should be cleaned every month with a bocal brush, mild soap solution, and running water.
2. English Horn bocals can be cleaned with a pipe cleaner, mild soap solution, and running water. Be careful not to scratch the inside of the bocal with the exposed wire ends of the pipe cleaner.

### **Cleaning Hard Rubber (Ebony) Mouthpieces**

1. Mouthpieces should be swabbed after each playing and cleaned weekly.
2. Select a small (to use less liquid) container that will accommodate the mouthpiece and place the mouthpiece tip down in the container.
3. Fill the container to where the ligature would begin with a solution of half water and half white vinegar (50% water and 50% hydrogen peroxide works too). Protect clarinet mouthpiece corked tenons from moisture.
4. After a short time, use an appropriately sized mouthpiece brush to remove any calcium deposits or other residue from inside and outside surfaces. This step may need to be repeated if the mouthpiece is excessively dirty.
5. Rinse the mouthpiece thoroughly and then saturate with Sterisol germicide solution. Place on paper towel and wait one minute.
6. Wipe dry with paper towel.
7. Note: Metal saxophone mouthpieces clean up well with hot water, mild dish soap (not dishwasher detergent), and a mouthpiece brush. Sterisol germicide solution is also safe for metal mouthpieces.

**Cleaning Saxophone Necks (Crooks)**

1. Swabs and pad-savers are available to clean the inside of the saxophone neck. However, most saxophonists use a flexible bottlebrush and toothbrush to accomplish the same results.
2. If the instrument is played daily, the saxophone neck should be cleaned weekly (and swabbed out each day after playing).
3. Use the bottlebrush and mild, soapy water to clean the inside of the neck.
4. Rinse under running water.
5. Sterisol germicide solution may be used on the inside of the neck at this time, if desired (not necessary). Place on paper towel for one minute.
6. Rinse again under running water, dry, and place in the case.
7. If using pad-savers, do not leave the pad-saver inside the neck when packed away.

**Cleaning Brass Mouthpieces**

1. Mouthpieces should be cleaned monthly.
2. Using a cloth soaked in warm, soapy water, clean the outside of the mouthpiece.
3. Use a mouthpiece brush and warm, soapy water to clean the inside.
4. Rinse the mouthpiece and dry thoroughly.
5. Sterisol germicide solution may be used on the mouthpiece at this time. Place on paper towel for one minute.
6. Wipe dry with paper towel.

**Other Instruments**

1. String, percussion, and keyboard instruments present few hygienic issues that cannot be solved simply by the musician washing their hands before and after use.

## X. Noise-Induced Hearing Loss

*Note - The information in this document is generic and advisory in nature. It is not a substitute for professional, medical judgments. It should not be used as a basis for medical treatment. If you are concerned about your hearing or think you may have suffered hearing loss, consult a licensed medical professional.*

Part of the role of any professional is to remain in the best condition to practice the profession. As an aspiring musician, this involves safeguarding your hearing health. Whatever your plans after graduation - whether they involve playing, teaching, engineering, or simply enjoying music - you owe it to yourself and your fellow musicians to do all you can to protect your hearing.

If you are serious about pursuing a career in music, you need to protect your hearing. The way you hear music, the way you recognize and differentiate pitch, the way you play music; all are directly connected to your hearing.

### Music & Noise

In the scientific world, all types of sound, including music, are regularly categorized as noise. A sound that is too loud, or too loud for too long, is dangerous to hearing health, no matter what kind of sound it is or whether we call it noise, music, or something else. Music itself is not the issue. Loudness and its duration are the issues. Music plays an important part in hearing health, but hearing health is far larger than music.

### Noise-Induced Hearing Loss (NIHL)

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 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. Sounds of less than 75 decibels, even after long exposure, are unlikely to cause hearing loss. Although being aware of decibel levels is an important factor in protecting one's hearing, distance from the source of the sound and duration of exposure to the sound are equally important. A good rule of thumb is to avoid noises that are "too loud" and "too close" or that last "too long."

It is very important to understand that the hair cells in your inner ear cannot regenerate. Damage done to them are permanent. There is no way to repair or undo this damage.

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. Technically, this is called Noise-Induced Hearing Loss (NIHL). 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.
4. The closer you are to the source of a loud sound, the greater the risk of damage.
5. Sounds over 85 dB (your typical vacuum cleaner) 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:
  - A. 85 dB (vacuum cleaner, MP3 player at 1/3 volume) - 8 hours
  - B. 90 dB (blender, hair dryer) - 2 hours
  - C. 94 dB (MP3 player at 1/2 volume) - 1 hour
  - D. 100 dB (MP3 player at full volume, lawnmower) - 15 minutes
  - E. 110 dB (rock concert, power tools) - 2 minutes
  - F. 120 dB (jet planes at takeoff) - without ear protection, sound damage is almost immediate.
7. Certain behaviors (controlling volume levels in practice and rehearsal, planning rehearsal order to provide relief from high volume works, avoiding noisy environments) reduce your risk of hearing loss.
8. The use of earplugs (Sensaphonics, ProGuard, Sensorcom) helps to protect your hearing health.
9. Day-to-day decisions can impact your hearing health, both now and in the future. Since sound exposure occurs in and out of the Department of Music, you also need to learn more and take care of your own hearing health on a daily, even hourly basis.
10. If you are concerned about your personal hearing health, talk with a medical professional.
11. If you are concerned about your hearing health in relationship to your study of music at Fayetteville State University, consult with your applied instructor, ensemble conductor, advisor, or Department Chair

## **XI. Other Resources and Links**

### **Resources - Information and Research Hearing Health Project Partners**

National Association of Department of Music (NASM) <http://nasm.arts-accredit.org/>

Performing Arts Medicine Association (PAMA) <http://www.artsmed.org/index.html>

PAMA Bibliography (search tool) <http://www.artsmed.org/bibliography.html>

### **General Information on Acoustics**

Acoustical Society of America (<http://acousticalsociety.org/>)

Acoustics.com (<http://www.acoustics.com>)

Acoustics for Performance, Rehearsal, and Practice Facilities Available through the NASM Web site

### **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**

Manufacturer of hearing protection earplugs for musicians

<http://www.etymotic.com/>

Dr. Andrew Stein, MD. Otolaryngologist in Ashland, also certified audiologists

<http://www.ashlandohent.com/>

A non-profit hearing information source for musicians and music lovers <http://www.hearnet.com>

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/>

House Research Institute – Hearing Health [www.hei.org/education/health/health/](http://www.hei.org/education/health/health/)

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

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

National Hearing Conservation Association <http://www.hearingconservation.org/>

[http://nasm.arts-accredit.org/site/docs/PAMA-NASM\\_Advisories/1\\_NASM\\_PAMA-Admin\\_and\\_Faculty\\_2011Nov.pdf](http://nasm.arts-accredit.org/site/docs/PAMA-NASM_Advisories/1_NASM_PAMA-Admin_and_Faculty_2011Nov.pdf)

### **Vocal Health**

The Professional Voice Center of Greater Cincinnati; professional consultations from voice pathologists <http://www.ProVoiceCenter.com/>

National Association of Teachers of Singing <http://www.nats.org/>

David L. Jones, voice teacher [www.voiceteacher.com/](http://www.voiceteacher.com/)

Chicago Center for Professional Voice <http://www.singershealth.com/>

### **Information on Fayetteville State University Health Services**

The following is a link to information regarding health services at Fayetteville State University <http://www.uncfsu.edu/shs>

### **Information regarding Safety on the Fayetteville State University Campus**

The following two links are to information regarding safety on the Fayetteville State University campus. <http://www.uncfsu.edu/legal-affairs/police-and-public-safety>

### **Musicians Health websites**

<http://www.musiciansway.com/wellness.shtml>

<http://www.musicianshealth.com/>



### Faculty Staff and Students Notification of Information

FACULTY/STAFF/STUDENT NAME \_\_\_\_\_

DEPARTMENT CHAIR: \_\_\_\_\_

As part of our ongoing efforts to ensure that our faculty, staff, students and visitors work, study, and visit in an environment which is as safe and hazard-free as possible, The Department of Performing and Fine Arts –Music Program recently had a health and safety review and an acoustic analysis of the Rosenthal Building.

The results of this analysis indicate your exposure of noise to be at, or above the “action level”, (85 dbA) which triggers a program of hearing conservation.

Therefore, the Department of Performing and Fine Arts –Music Program hearing, vocal and neuromusculoskeletal health policy and program requires your participation in the following:

1. You will be provided with a choice of hearing protection. You will have the option of wearing them while performing your job, studying or visiting the department.
2. You will participate in an informational and orientation session regarding hearing, vocal, and neuromusculoskeletal health of a musician.
3. Receive a copy of the Fayetteville State University Department of Performing and Fine Arts – Music Program Music Health and Safety Resource Manual. This manual will also be available via the department website.

If you have any questions concerning any of the above, the department chair is available to discuss them with you at a mutually convenient time.

The Department of Performing and Fine Arts –Music Program looks forward to your continued cooperation in this important area of employee, student, visitor’s safety and health.

As evidenced by my signature below, I acknowledge receipt of this information.

\_\_\_\_\_  
Employee/Student Signature

\_\_\_\_\_  
Date