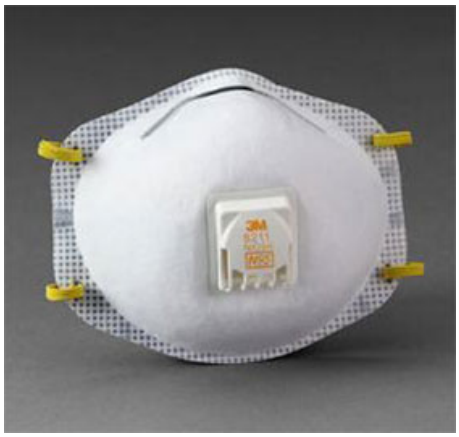
West Virginia School of Osteopathic Medicine Respiratory Protection Program



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WVSOM Respiratory Protection Program

Purpose

The purpose of the Respiratory Protection Program is to ensure that no WVSOM employees are exposed to levels of air contaminants above established exposure limits without proper respiratory protection. Examples of hazards specific to the Biomedical Sciences department include possible exposure to organic vapors from formaldehyde during the embalming procedure/gross anatomy, and exposure to waste anesthetic gas during rodent surgery utilizing isoflurane. Engineering controls, such as ventilation and substitution of less toxic materials, are the first line of defense at the WVSOM; however, engineering controls may not completely control the identified hazards. In these situations, respirators and other protective equipment must be used. The work activities requiring respirator use at WVSOM are outlined in Table 1 in the Scope and Application section of this program.

This program also covers the voluntary use of respiratory protection as some employees may express a desire to wear a respirator during certain operations that do not require the mandatory use of respirators. In these instances the Program Administrator will review each request on a case-by-case basis. If the use of respiratory protection in a specific case will not jeopardize the health or safety of the employee, the WVSOM will provide respirators for voluntary use. As outlined in the Scope and Applications section of this program, voluntary respirator use is subject to certain requirements of this program.

Scope and Application

This program applies to all employees who are required to wear respirators during normal work operations, and during some non-routine or emergency operations such as a spill of a hazardous substance. All employees working in these areas and engaged in certain processes or tasks (as outlined in the table below) must be enrolled in the company's respiratory protection program.

Employee position or activity	Chemicals or products used	NIOSH approved respirators assigned	When used	Fit Test?
Rodent inhalation anesthesia	Isoflurane	Elastomeric Half Mask	During surgery for at risk employees	Yes
Embalming Technician/s	Formaldehyde	Elastomeric Half Mask	Infrequently/ Emergencies	Yes
Safety Officer/s	Acids, Bases, Organics	Elastomeric Half Mask	Observation/ Monitoring	Yes
Students, staff, faculty	Various dry chemicals; bioaerosols; animal dander	N95 Particulate half mask, N95 Surgical Respirator	Daily, as needed	No/Yes[1]

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In addition, any employee who voluntarily wears a respirator when a respirator is not required is subject to the medical evaluation, cleaning, maintenance, and storage elements of this program, and must be provided with a copy of *Appendix D of the 29 CFR 1910.134 (Respiratory Protection standard)* which details the requirements for voluntary use of respirators by workers.

Responsibilities

Program Administrator: the Program Administrator is responsible for administering the respiratory protection program. Duties of the program administrator include:

[1] Fit Testing will be required in environments known to exceed published exposure limits.

- Identifying work areas, processes or tasks that require workers to wear respirators, and evaluating hazards.
- Selection of respiratory protection options.
- Monitoring respirator use to ensure that respirators are used in accord with their certifications.
- Arranging for and/or conducting training.
- Ensuring proper storage, cleaning, inspections, and maintenance of respiratory protection equipment.
- Conducting qualitative fit testing with Isoamyl Acetate (Banana Oil)/Bitrex/Saccharin
- Administering the medical surveillance program.
- Maintaining records required by the program.
- Evaluating the program.
- Updating written program, as needed.
- Arranging for outside consultation with a Certified Safety Professional when necessary.
- The Program Administrator for the WVSOM Department of Biomedical Sciences is Mildred L. Mattox, Research Assistant III, Research Safety Officer.

Employees: each employee has the responsibility:

- To wear his or her respirator when and where required and in the manner in which they were trained.
- Care for and maintain their respirators as instructed, and store them in a clean, sanitary location.
- Inform their supervisor if the respirator no longer fits well, and request a new one that fits properly.

- Inform their supervisor or the Program Administrator of any respiratory hazards that they feel are not adequately addressed in the workplace and of any other concerns that they have regarding the program.
- Inform their supervisor of need for a medical reevaluation.

Hazard Assessment

The Program Administrator will select respirators to be used on site, based on the hazards to which employees are exposed and in accord with all applicable OSHA standards. A hazard evaluation will be conducted for each process or work area where airborne contaminants may be present in routine operations or during an emergency. The evaluation will include identification and development of a list of hazardous substances used in the workplace at WVSOM, classified by work area or task. Currently at the WVSOM, the hazards requiring respiratory safety monitoring include exposure to formaldehyde, halogenated anesthetic gas, paint fumes (only in enclosed areas), allergens associated with animal care and use, and allergens associated with landscaping/construction work. In addition, due to increasing demands by rotation sites for students to be trained and mask fit before arriving, all second/third year Osteopathic Medical Students will be offered respiratory safety training and the opportunity to be fit tested with an N95 surgical respirator before entering their offsite rotations. Most statewide campus location Deans and Directors are responsible for ensuring their students are properly trained and fit tested according to procedures set forth in the WVSOM Respiratory Safety Manual. The participating Dean's and Directors have participated in respiratory safety training and are thereby qualified to administer the program at their respective statewide campus locations. See Appendix E.

The first step of identifying workers with potential exposure to formaldehyde, halogenated anesthetic gas, or any other organic contaminant is accomplished through

the use of Passive Monitoring (PM) badges that are worn in the area of exposure for set periods of time. Two measurements must be made which include short-term exposure limit (STEL) and an eight hour time weighted exposure average (TWA). In addition the Action Level (AL) is the point, if reached, where protective measures must be enacted or engineering controls improved. If the TWA or STEL is greater than that allowed by OSHA standards, or the AL is reached, then personal protective equipment (PPE) must be provided in the form of respirators to all workers exposed to dangerous levels of formaldehyde.

OSHA does not have a recommended exposure level concerning halogenated anesthetic agents but NIOSH has set the standard for exposure to less than 2 ppm over a 1 hour exposure window. NIOSH's standard of 2 ppm is below the limit for human odor detection for isoflurane so if you can smell it, it is way over the limit. Passive Monitoring badges will be analyzed by an American Industrial Hygiene Association (AIHA) accredited laboratory for both compounds measured. The results from the PM badges will be used to determine the appropriate respirators for worker safety and also used to determine the cartridge change out schedule for the selected respirators.

Updating the Hazard Assessment

The Program Administrator must revise and update the hazard assessment as needed, particularly if changes are made to the work environment or tasks. If an employee feels that respiratory protection is needed during a particular activity, he/she is to contact the Program Administrator or his or her Supervisor. The Program Administrator will then evaluate the potential hazard, arrange for monitoring if needed, and report the results back to the employees. If it is determined that respiratory protection is needed then all other elements of this program will be in effect for those tasks, and the program will be updated accordingly.

Respirator Selection Procedures

Respirators are selected based on Assigned Protective Factors (APFs) of the respirator and calculated Maximum Use Concentrations (MUCs) of the substances in question. APF means the workplace level of respiratory protection that a respirator or class of respirators is expected to provide to employees when the employer implements a continuing, effective respiratory protection program as specified by 29 CFR 1910.134. The range of APF runs from 5 to 10,000 depending on the type of respirator selected. MUC refers to the maximum atmospheric concentration of a hazardous substance from which an employee can be expected to be protected when wearing a respirator, and is determined by the APF of the respirator and the permissible exposure limit of the hazardous substance. The MUC is calculated by multiplying the APF of the respirator by the PEL of the substance in question. At this time at the WVSOM, only half-facepiece respirators (APF=10) with appropriate cartridges will be required to provide a safe working environment where necessary. This determination will reviewed yearly (or when necessary) based upon the results received from the AIHA certified laboratory.

Medical Evaluations

Every employee of the WVSOM who must wear a respirator will be provided with a medical evaluation before they are allowed to use the respirator. The first step is to give the attached medical questionnaire to those employees. Employees are required to fill out the questionnaire in private and send or give them to the Director of Occupational Medicine (DOM) at the Robert C. Byrd Clinic (RCBC) at 400 N Jefferson ST, Lewisburg, WV, 24901. Our non-readers or non-English-reading employees need to inform their supervisor or the Program Administrator and someone (a non-managerial employee) will be assigned to assist them. Completed questionnaires are confidential and will be sent directly to the medical provider without review by management. A self-addressed,

stamped envelope will be provided with the questionnaire in case the questionnaire cannot be hand delivered.

If the medical questionnaire indicates to the DOM that a further medical exam is required, this will be provided at no cost to our employees. We will get a recommendation from the DOM on whether or not the employee is medically able to wear a respirator. The DOM will provide the WVSOM and the employee with a written report stating only the following information:

- A determination of whether or not the employee is medically able to use a respirator.
- Any limitations on respirator use related to the medical condition of the employee or to the workplace conditions in which the respirator will be used.
- The need, if any, for follow-up medical evaluations.
- A statement that the DOM has provided the employee with a copy of their written recommendation.

Employees will:

- Be permitted time at work to fill out questionnaire
- Be granted follow-up medical exams as required by the Respiratory Protection Standard, and/or as deemed necessary by the DOM
- Be granted the opportunity to speak with the DOM about their medical evaluation, if they so request

Program Administrator will:

- Provide the DOM with a copy of this program and a copy of the Respiratory Protection Standard
- Provide the DOM a list of the hazardous substances by work area, and for each employee requiring evaluation, his or her work area or job

- Provide the DOM the employee's title, proposed respirator type and weight, length of time required to wear the respirator, expected physical work load (light, moderate, or heavy), potential temperature and humidity extremes, and any additional protective clothing required

After an employee has received clearance and has begun to wear his or her respirator, additional medical evaluations will be provided if:

- The employee reports signs and/or symptoms related to their ability to use a respirator, such as shortness of breath, dizziness, chest pains, or wheezing
- The DOM or supervisor informs the Program Administrator that the employee needs to be reevaluated
- Information from this program, including observations made during fit testing and program evaluation, indicates a need for reevaluation

All examinations and questionnaires are to remain confidential between the employee and the DOM.

Additional medical evaluations will be done in the following situations:

- our medical provider recommends it,
- our respirator program administrator decides it is needed,
- an employee shows signs of breathing difficulty,
- changes in work conditions that increase employee physical stress (such as high temperatures or greater physical exertion).

Respirator Fit-testing

All employees who are required to wear tight-fitting respirators will be fit-tested before using their respirator or given a new one. Fit-testing will be repeated annually or when deemed necessary. Fit-testing will also be done when a different respirator facepiece is chosen, when there is a physical change in an employee's face that would

affect fit, or when our employees or medical provider notify us that the fit is unacceptable. No beards are allowed on wearers of tight-fitting respirators.

Respirators are chosen for fit-testing following procedures in the OSHA Standard 1910.134 Appendix A (Fit Testing Procedures). The Isoamyl Acetate (banana oil) protocol will be used for all half-facepiece air purifying respirators utilizing organic type cartridges and the Bitrex/Saccharin fit test procedures will be used for all N95 surgical respirators/N95 respirators on campus. Documentation of our fit-testing results are kept in the office of the Respirator Program Administrator.

Respirator Use

The purpose of this section is to spell out procedures for the proper use of respirators in both routine jobs and emergencies. These procedures relate to preventing leaks in the facepiece shield, preventing employees from removing respirators in hazardous environments, and ensuring that the respirators work effectively throughout the work shift/task assigned.

Employee Responsibilities:

- Employees will use their respirators under conditions specified by this program, and in accord with the training they receive on the use of each particular model. In addition, the respirator must not be used in a manner for which it is not certified by NIOSH or its manufacturer.
- Employees must conduct user seal checks each time that they wear their respirator, either the positive or the negative seal test, whichever works better, as specified in *Appendix B-1 of the Respiratory Protection standard*
- Employees will not be allowed to wear respirators with tight-fitting facepieces if they have any condition, such as facial hair, missing dentures, or facial deformities that prevents them from achieving a good seal.

- Jewelry or headgear that projects under the facepiece seal is not allowed.
- If corrective glasses or other personal protective equipment is worn, it will not interfere with the seal of the facepiece to the face.

  Note: Full-facepiece respirators can be provided with corrective glasses since corrective lenses can be mounted inside a full-facepiece respirator. Contact lenses can also be used with full facepiece respirators if they do not cause any problems for the employee.

Employees will leave the respirator use area when any of the following occurs (can step out of the room into hallway, door closed to respirator use area):

1. Employee needs to wash his or her face or the respirator facepiece to prevent eye or skin irritation associated with respirator use
2. If the employee detects vapor or gas breakthrough
3. If the employee notices facepiece is leaking
4. If the employee experiences a change in breathing resistance, dizziness, nausea, weakness, coughing, sneezing, etc.
5. If any part of the respirator, including straps, valves, etc., are not working properly

Program Administrator's Responsibilities:

- Will monitor the work areas in order to be aware of changing conditions where employees are using respirators
- Will ensure that the NIOSH labels and color-coding on the respirator filters and cartridges remain readable and intact
- Will inspect, repair or replace any respirator that appears to not be functioning correctly before allowing an employee to return to an area that requires respirator use

Procedures for Immediately Dangerous to Life or Health (IDLH) Areas

The respirators referred to in this Respiratory Protection Program only protect up to 10X the PEL of each specific chemical/vapor when used with the appropriate cartridge/filter. In an accident or large spill there may be no way to identify the substances involved OR they may be identifiable but present in dangerously high levels beyond the capability of your respirator to protect you.

If there is an accident and *you believe, or know*, that a dangerous level of a hazardous substance is in the air, **immediately leave the area and call 911 (or 9-911 from on campus)**. **If the hazard will affect the entire building, evacuate the entire building. Follow safety directions found in the Emergency Response Manual under Biological/Chemical Spills pg. 29, 4th bullet.** After notifying officials of an emergency through 911, call the Campus Safety/Security office **(304-647-8911)** and inform them of the emergency; they will contact the necessary people within the WVSOM. **No employees in the WVSOM Biomedical Sciences department are trained as HAZMAT chemical/emergency responders and are not authorized to act in such a manner.**

Respirator storage, cleaning, maintenance and repair

Storage

Non-disposable respirators will be stored in a location where they will be protected from sunlight, dust, heat, cold, moisture, and damaging chemicals. They should be stored in a manner to prevent deformation of the facepiece and exhalation valve. Respirators should be marked and stored in a manner to assure they will be worn only by the assigned employee.

Cleaning

Respirators assigned for the exclusive use of an individual employee must be cleaned as often as necessary to be maintained in a clean and sanitary condition. Respirators used by more than one employee must be cleaned and disinfected before being used by different individuals. Cleaning will be according to the following instructions:

- Disassemble respirator, removing cartridges/filters
- Wash the facepiece and associated parts in a mild detergent with warm water
- Do not use organic solvents
- Rinse completely in warm water
- Wipe the respirator with disinfectant wipes (non-alcohol) to kill germs
- Air dry in a clean location
- Reassemble the respirator, replacing any defective parts, and place in a clean, dry plastic bag or other airtight container

Maintenance & Repair

Respirators are to be properly maintained at all times to ensure that they function properly and adequately protect the employee. All respirators should be inspected before and after every use and during cleaning. If, during inspection, an employee discovers a defect in a respirator, he/she is to bring the defect to the attention of his or her supervisor or the Program Administrator. Repair of respirators will be done by the Program Administrator and must be done with parts designed for the respirator in accordance with the manufacturer's instructions before reuse. No attempt will be made to replace components or make adjustments, modifications, or repairs beyond what the manufacturer recommends. IF the respirator is irreparable it will be tagged and taken out of service. If the employee is not given a replacement of the same make, model and size, then the employee must be fit tested.

Cartridge Change Schedule

Respirator cartridges will be regularly replaced on the following schedule:

Type of respirator cartridge	Location or job duties	Chemicals in use	Replacement schedule
3M #6005 Formaldehyde	Anatomy Lab/ Embalming Room Smith Science Bldg.	Formaldehyde	After each emergency use
3M #6001 Organic Vapor	Surgery Suite Rm. 237 Smith Science Bldg.	Isoflurane	Every 6 days during intermittent use
3M #6003 Organic Vapor/Acid Gas	Emergency Use/Monitoring	Various organic chemicals/vapors	After each use

Determination of the cartridge change schedule was estimated from several sources. The replacement schedule for formaldehyde cartridges will be set based on the results of the 8 hour, TWA for both the embalming room and the Anatomy Lab. Currently, respirators will not have to be used on a daily basis and therefore only be used on an emergency basis for minor spill cleanup. If only used for emergency situations then the cartridges would be replaced after every use.

The replacement schedule for the organic vapor cartridge used for isoflurane will be changed every 6 days based on short, intermittent use with rodent surgery. This estimate is based on the 3M Technical Data Bulletin #186 – Establishing Cartridge Change Schedules for Anesthetic Gases (Isoflurane, Sevoflurane), published in January, 2009. Their test data showed that the 6001 cartridges may be used for up to 6 days of intermittent isoflurane exposure if use conditions are similar to their testing conditions. In between use, cartridges MUST be stored in a cool dry place.

The emergency use only/monitoring cartridges will be replaced after each use.

Respirator Training

The Program Administrator will provide training to respirator users and their supervisors on the contents of the WVSOM Respiratory Protection Program and their responsibilities under it, and on the OSHA Respiratory Protection standard.

- Workers will be trained prior to using a respirator in the workplace.
- The training must be comprehensive, understandable, and recur annually or more often if necessary.
- Supervisors who wear respirators or supervise employees who do, will also be trained on the same schedule.
- The Program Administrator or their Supervisor will ensure that each employee can demonstrate knowledge of at least the following:
    1. Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
    2. What the limitations and capabilities of the respirator are;
    3. How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;
    4. How to inspect, put on and remove, use, and check the seals of the respirator;
    5. What the procedures are for maintenance and storage of the respirator;
    6. How to recognize the medical signs and symptoms that may limit or prevent the effective use of respirators; and
    7. The general requirements of the Respiratory Protection standard;
- Retraining shall be administered annually, and when the following situations occur:

1. Changes in the workplace or the type of respirator render previous training obsolete;
2. Inadequacies in the employee's knowledge or use of the respirator indicate that the worker has not retained the requisite understanding or skill; or
3. Any other situation arises in which retraining appears necessary to ensure safe respirator use.

Respiratory Program Evaluation

The Program Administrator will conduct periodic evaluations of our respiratory program for effectiveness by completing the following steps and recording the findings in an inspection log.

- Checking results of fit-test results and health provider evaluations.
- Talking with employees who wear respirators about their respirators – how they fit, do they feel they are adequately protecting them, do they notice any difficulties in breathing while wearing them, do they notice any odors while wearing them, etc.
- Periodically checking employee job duties for changes in chemical exposure.
- Periodically checking maintenance and storage of respirators.
- Periodically checking how employees use their respirators.

These findings will be reported to Dr. Malcolm Modrzakowski and will list plans to correct deficiencies in the respirator program and target dates for implementing those corrections.

Recordkeeping

The following records will be kept:

- A copy of this completed respirator program

- Employees' latest fit-testing results
- Employee training records
- Written recommendations from our medical provider

The records will be kept in the office of the Program Administrator and employees will have access to these records. **The completed medical questionnaire and the DOM's documented findings are confidential and will be stored in the office of the Health Educator for the Clinical Evaluation Center of the WVSOM.**

WVSOM Fit Testing Protocol #1 – Isoamyl Acetate

An Isoamyl Acetate (Banana Oil) Qualitative Fit Testing (QLFT) procedure will be utilized at the WVSOM to meet the current respiratory protection level required for organic cartridges. This determination has been made based on the results of personal monitoring badges worn in the areas at risk by WVSOM personnel. Monitoring will be conducted periodically to ensure the continued safety of the workers at the WVSOM. If at any time point in the future such monitoring indicates the need for a more rigorous fit testing procedure, the needed equipment can be rented to conduct said testing.

A. Odor Threshold Test

1. Three 1 L glass jars with metal lids are required.
2. Prepare IAA Test Jars in the fume hood of room 205 in the Smith Science Building.
3. Odor free water at approximately 25° C will be used for the solutions.
4. Prepare the Stock IAA solution by adding 1 ml of pure Isoamyl Acetate to 800 ml of odor-free water in a 1 liter glass jar. Shake for 30 seconds. Prepare new stock solution weekly.
5. Prepare the odor test solution in a second jar by placing 0.400 ml of the stock solution into 500 ml of odor-free water. Shake for 30 seconds and allow to stand for

two to three minutes to allow the IAA concentration above the liquid to reach equilibrium. This solution can only be used for one day.

6. Prepare a test blank solution by adding 500 ml of odor-free water to a third jar.
7. Label the jars in a non-identifying way to the test subjects, i.e., “1” & “2” etc.
8. The actual odor threshold test will be conducted near the fume hood in room J101 of the Smith Science Building.
8. A card with instructions will be typed and placed on the area in front of the two jars which states: *“The purpose of this test is to determine whether you can smell banana oil at a low concentration. The two jars in front of you contain water. One of these jars also contains a small amount of banana oil. Ensure the covers are secured tightly, and then shake each jar for two seconds. Unscrew the lids of each jar, one at a time, and smell the contents. Indicate to the test conductor which jar contains banana oil.”*
9. IF the fit test subject is unable to correctly identify the jar containing the odor test solution, the IAA QLFT may not be used.
10. IF the test subject correctly identifies the jar containing the odor test solution, the test subject may proceed to the respirator selection and fit testing.

B. Respirator Selection

1. The test subject shall be allowed to select the most comfortable respirator from a selection including respirators of various sizes and models.
2. The selection process will take place in room J209 of the Smith Science Building. Prior to the selection process, the fit test subject will be shown how to put on a respirator, how it should be positioned on the face, how to set strap tension and how to determine a “comfortable” respirator.

3. The test subject should understand that they are being asked to select the respirator which provides the most comfortable fit.
4. The most comfortable mask is donned and worn for at least five minutes to assess comfort. All donning and adjustments of the facepiece shall be performed by the test subject without assistance from the test conductor or other person.
5. Assessment of comfort shall include reviewing the following points with the test subject and allowing the test subject adequate time to determine the comfort of the respirator:
    - Positioning of mask on nose
    - Room for eye protection
    - Room to talk
    - Positioning of mask on face and cheeks
6. The test subject shall conduct the standard negative and positive-pressure fit checks (see Appendix B).
7. The test subject is now ready for fit testing.

C. Fit Test Procedure

1. Fit Testing will be conducted in front of the fume hood in room J216 of the Smith Science Building.
2. The test chamber will be suspended from the ceiling of the fit test area with a length of heavy string so that the chamber can be adjusted to the height of the employee being tested. The top of the chamber should be about 6 inches above the test subject's head.
3. Each respirator used for the fitting and fit testing should be equipped with organic vapor cartridges, or offer protection against organic vapors.

4. After selecting, donning, and properly adjusting a respirator himself/herself, the test subject should wear the respirator to the fit test room (room 205).
5. A copy of the test exercises and the “Rainbow Passage” will be taped to the inside of the test chamber. (See Appendix A).
6. Each test subject should wear his or her respirator for at least ten minutes before starting the test.
7. Upon entering the test chamber, the test subject will be given a 6” X 5” piece of paper towel folded in half and wetted with 0.75 ml of pure IAA. The test subject should hang the wet towel with a clip (if provided) or over the hangar inside the top of the chamber.
8. Allow two minutes for the IAA test concentration to stabilize before starting the fit test exercises. During this time the test conductor will talk with the test subject to explain the fit test, the importance of his/her cooperation, the purpose for the head exercises, or to demonstrate some of the exercises.
9. Each exercise described in Appendix A must be conducted for at least one minute.
10. If at ANY time during the test the test subject detects the banana-like odor of IAA, the test has failed; the test subject shall quickly exit the test chamber and leave the area to avoid olfactory fatigue. **NOTE:** At low concentrations, there is no respiratory danger involved with using IAA. A quick exit is recommended to prevent the test subject’s sense of smell from being overcome with banana oil and preventing a good retest with another respirator.
11. Upon returning to the selection room, the test subject should remove the respirator, repeat the odor sensitivity test, select and don another respirator, return to the test chamber, and begin the above procedure. The process must continue until a respirator that fits correctly has been found. Should the odor sensitivity test be

failed, the subject should wait about five minutes before retesting. Odor sensitivity should return in that time period.

12. When a respirator is found that passes the test, its efficiency should be demonstrated for the subject by having him break the face seal and take a breath before exiting the chamber.
13. When the test subject is leaving the test chamber, he/she should remove the saturated towel, returning it to the test conductor. To keep the area from becoming contaminated, the used towels should be stored in a self-sealing disposable bag. (There is no significant IAA concentration buildup in the test chamber from repetitive testing.) When the testing is completed the test conductor will dispose of the bags in compliance with local, state, and federal regulations.
14. The test subjects who have successfully passed this fit test with a half mask respirator may be assigned the use of the respirator in atmospheres up to ten times the PEL of a known contaminant. In other words, the IAA protocol may only be used to assign a protection factor no higher than 10.
15. This test shall not be conducted if there is any hair growth between the skin and the facepiece sealing surface.
16. Qualitative fit testing shall be repeated at least every year. In addition, QLFT will be repeated whenever a significant change has occurred in an employee's physical status, or when a new respirator is selected which is not identical to the one already in use.

WVSOM Fit Testing Protocol #2 – Bitrex/Saccharin

A Bitrex Qualitative Fit Testing (QLFT) procedure will be utilized at the WVSOM for fit testing of particulate respirators such as the N95 Particulate Dust Mask, 1860 Surgical Mask, and other times when required as determined by type of cartridge utilized.

A. Taste Threshold Screening

The Bitrex taste threshold screening, performed without wearing a respirator, is intended to determine whether the individual being tested can detect the taste of Bitrex

1. During taste threshold screening as well as during fit testing, subjects will wear an enclosure about the head and shoulders that is approximately 12 inches in diameter by 14 inches tall. The front portion of the enclosure shall be clear from the respirator and allow free movement of the head when a respirator is worn.
2. The test enclosure shall have a ¾ inch hole in front of the test subject's nose and mouth area to accommodate the nebulizer nozzle.
3. The test subject shall don the test enclosure. Throughout the threshold screening test, the test subject shall breathe through his or her slightly opened mouth with tongue extended. The subject is instructed to report when he/she detects a bitter taste.
4. Using a DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent, the test conductor shall spray the Threshold Check Solution into the enclosure. This Nebulizer shall be clearly marked to distinguish it from the fit test solution nebulizer.
5. The Threshold Check Solution is prepared by adding 13.5 mg of Bitrex to 100 ml of 5% NaCl solution in distilled water.
6. To produce the aerosol, the nebulizer bulb is firmly squeezed so that the bulb collapses completely, and is then released and allowed to fully expand.
7. An initial ten squeezes are repeated rapidly and then the test subject is asked whether the Bitrex can be tasted. IF the test subject reports tasting the bitter taste during the ten squeezes, the screening test is completed. The taste

threshold is noted as ten regardless of the number of squeezes actually completed.

8. If the first response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the second ten squeezes, the screening test is completed. The taste threshold is noted as twenty regardless of the number of squeezes actually completed.
9. If the second response is negative, ten more squeezes are repeated rapidly and the test subject is again asked whether the Bitrex is tasted. If the test subject reports tasting the bitter taste during the third set of ten squeezes, the screening test is completed. The taste threshold is noted as thirty regardless of the number of squeezes actually completed.
10. The test conductor will take note of the number of squeezes required to solicit a taste response.
11. If the Bitrex is not tasted after 30 squeezes, the test subject is unable to taste Bitrex and may not perform the Bitrex fit test. ***A Saccharin Fit Test will be conducted if the subject cannot taste the Bitrex.***
12. If a taste response if elicited, the test subject shall be asked to take note of the taste for reference in the fit test.
13. Correct use of the nebulizer means that approximately 1 ml of liquid is used at a time in the nebulizer body.
14. The nebulizer shall be thoroughly rinsed in water, shaken to dry, and refilled at least each morning and afternoon or at least every 4 hours.

B. Respirator Selection

Respirator selection will be carried out as detailed in steps 1-7 on pages 20-21 of this manual.

C. Fit Test Procedure

1. The test subject may not eat, drink (except plain water), smoke, or chew gum for 15 minutes before the test.
2. The fit test uses the same enclosure as that used for the taste threshold test.
3. The test subject shall don the enclosure while wearing the respirator selected as detailed on pages 20-21 of this manual. The respirator shall be properly adjusted and equipped with any type of particulate filter.
4. A second DeVilbiss Model 40 Inhalation Medication Nebulizer or equivalent is used to spray the fit test solution into the enclosure. This nebulizer shall be clearly marked to distinguish it from the screening test solution nebulizer.
5. The fit test solution is prepared by adding 337.5 mg Bitrex to 200 ml of a 5% NaCl solution in warm water.
6. As before, the test subject shall breathe through his or her slightly opened mouth with tongue extended, and be instructed to report if he/she tastes the bitter taste of Bitrex.
7. The nebulizer is inserted into the hold in the front of the enclosure and an initial concentration of the fit test solution is sprayed into the enclosure using the same number of squeezes (either 10, 20, or 30 squeezes) based on the number of squeezes required to elicit a taste response as noted during the screening test.
8. After generating the aerosol, the test subject shall be instructed to perform the seven exercises as detailed in Appendix A, page 38 of this manual.
9. Every 30 seconds the aerosol concentration shall be replenished using one half the number of squeezes used initially (e.g., 5, 10, or 15).

10. The test subject shall indicate to the test conductor if at any time during the fit test the taste of Bitrex is detected. IF the test subject does not report tasting the Bitrex, the test is passed.
11. If the taste of Bitrex is detected, the fit is deemed unsatisfactory and the test failed. A different respirator shall be tried and the entire test procedure is repeated (taste threshold screening and fit testing).

WVSOM Respiratory Protection Program

FORMS

WVSOM Banana Oil Qualitative Fit Test (QLFT) Form

Employee Name	Title	Date
Dept.	Supervisor Name	

A respirator fit test must be completed by an individual trained in respiratory fit testing procedures. **This fit test is required annually.**

Does employee wear glasses?_____Yes_____No Does Employee have facial hair, dentures or other attributes that will prevent a positive face fit?____Yes_____No

Respirator Type (Make Model and Certification Number)			
Passed Odor Threshold Screen?			
Compatible with eye glasses	____Yes ____No	____Yes ____No	____Yes____No
Positive pressure fit check	___Pass___Fail	___Pass___Fail	___Pass___Fail
Negative pressure fit check	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Normal Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Deep Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Turning Side To Side (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Moving Up and Down (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Talking (recite Rainbow Passage or count backwards)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Bending Over (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Normal Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Respirator fit test result	___Pass___Fail	___Pass___Fail	___Pass___Fail

Based on information provided on this form, I certify that the employee named on this form can wear the respiratory protective equipment listed above.

____

Signature of Person Administering Test _____ Date _____

WVSOM Bitrex/Saccharin Qualitative Fit Test (QLFT) Form

Employee Name	Title	Date
Dept.	Supervisor Name	

A respirator fit test must be completed by an individual trained in respiratory fit testing procedures. **This fit test is required annually.**

Does employee wear glasses?____Yes_____No Does Employee have facial hair, dentures or other attributes that will prevent a positive face fit?_____Yes_____No

Respirator Type (Make Model and Certification Number)			
Bitrex Sensitivity Threshold #			
Compatible with eye glasses	____Yes____No	____Yes____No	____Yes____No
Positive pressure fit check	___Pass___Fail	___Pass___Fail	___Pass___Fail
Negative pressure fit check	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Normal Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Deep Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Turning Side To Side (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Moving Up and Down (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Talking (recite Rainbow Passage or count	___Pass___Fail	___Pass___Fail	___Pass___Fail
Bending Over (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Head Stationary Normal Breathing (60 seconds)	___Pass___Fail	___Pass___Fail	___Pass___Fail
Respirator fit test result	___Pass___Fail	___Pass___Fail	___Pass___Fail

Based on information provided on this form, I certify that the employee named on this form can wear the respiratory protective equipment listed above.

Signature of Person Administering Test _____Date _____

WVSOM Respirator Training Record

_____

Employee Name (printed)

I certify that I have been trained in the use of the following respirator(s):

This training included the inspection procedures, fitting, maintenance and limitations of the above respirator(s). I understand how the respirator operates and provides protection. I further certify that I have heard the explanation of the respirator(s) as described above and I understand the instructions relevant to use, cleaning, disinfecting and the limitations of the respirator(s).

_____

Employee Signature

_____

Instructor Signature

_____

Date

Employer-Provided Information for Medical Evaluations

Specific Respirator Use Information

Employee Name: _____

Company name: _____

Employee job title: _____

Company Address: _____

Company contact person and phone #: _____

1. Will the employee be wearing protective clothing and/or equipment (other than the respirator) when using the respirator?
   Yes/No _____ If "Yes," describe protective clothing and/or equipment:
   _____
   _____
   _____
   _____

2. Will employee be working under hot conditions (temperature exceeding 77°F)?
   Yes/No _____ If "Yes", describe nature of work and duration:
   _____
   _____
   _____
   _____

3. Will employee be working under humid conditions? Yes / No_____

4. Describe any special or hazardous conditions the employee could encounter when using the respirator (for example, confined spaces, life-threatening gases).

_____
_____
_____

Appendix C to §1910.134: OSHA Respirator Medical Evaluation Questionnaire (Mandatory)

To the employer: Answers to questions in Section 1, and to question 9 in Section 2 of Part A, do not require a medical examination.

To the employee:

Can you read (circle one): Yes/No

Your employer must allow you to answer this questionnaire during normal working hours, or at a time and place that is convenient to you. To maintain your confidentiality, your employer or supervisor must not look at or review your answers, and your employer must tell you how to deliver or send this questionnaire to the health care professional who will review it.

Part A. Section 1. (Mandatory)

The following information must be provided by every employee who has been selected to use any type of respirator (please print).

1. Today's date:_____

2. Your name:_____

3. Your age (to nearest year):_____

4. Sex (circle one): Male/Female

5. Your height: _____ ft. _____ in.

6. Your weight: _____ lbs.

7. Your job title:_____

8. A phone number where you can be reached by the health care professional who reviews this questionnaire (include the Area Code): _____

9. The best time to phone you at this number:
_____

10. Has your employer told you how to contact the health care professional who will review this questionnaire (circle one): Yes/No

11. Check the type of respirator you will use (you can check more than one category):

a. _____ N, R, or P disposable respirator (filter-mask, non-cartridge type only).

b. _____ Other type (for example, half- or full-face-piece type, powered-air purifying, supplied-air, self-contained breathing apparatus).

12. Have you worn a respirator (circle one): Yes/No

If "yes," what type(s):_____
_____
_____

Part A. Section 2. (Mandatory)

Questions 1 through 9 below must be answered by every employee who has been selected to use any type of respirator (please circle "yes" or "no").

1. Do you **currently** smoke tobacco, or have you smoked tobacco in the last month: Yes/No

2. Have you **ever had** any of the following conditions?

Seizures (fits): Yes/No
Diabetes (sugar disease): Yes/No
Allergic reactions that interfere with your breathing: Yes/No
Claustrophobia (fear of closed-in places): Yes/No
Trouble smelling odors: Yes/No

3. Have you **ever had** any of the following pulmonary or lung problems?

Asbestosis: Yes/No
Asthma: Yes/No
Chronic bronchitis: Yes/No
Emphysema: Yes/No
Pneumonia: Yes/No
Tuberculosis: Yes/No
Silicosis: Yes/No
Pneumothorax (collapsed lung): Yes/No
Lung cancer: Yes/No
Broken ribs: Yes/No
Any chest injuries or surgeries: Yes/No
Any other lung problem that you've been told about: Yes/No

4. Do you **currently** have any of the following symptoms of pulmonary or lung illness?

Shortness of breath: Yes/No

Shortness of breath when walking fast on level ground or walking up a slight hill or incline: Yes/No

Shortness of breath when walking with other people at an ordinary pace on level ground: Yes/No

Have to stop for breath when walking at your own pace on level ground: Yes/No

Shortness of breath when washing or dressing yourself: Yes/No

Shortness of breath that interferes with your job: Yes/No

Coughing that produces phlegm (thick sputum): Yes/No

Coughing that wakes you early in the morning: Yes/No

Coughing that occurs mostly when you are lying down: Yes/No

Coughing up blood in the last month: Yes/No

Wheezing: Yes/No

Wheezing that interferes with your job: Yes/No

Chest pain when you breathe deeply: Yes/No

Any other symptoms that you think may be related to lung problems: Yes/No

5. Have you **ever had** any of the following cardiovascular or heart problems?

Heart attack: Yes/No

Stroke: Yes/No

Angina: Yes/No

Heart failure: Yes/No

Swelling in your legs or feet (not caused by walking): Yes/No

Heart arrhythmia (heart beating irregularly): Yes/No

High blood pressure: Yes/No

Any other heart problem that you've been told about: Yes/No

6. Have you **ever had** any of the following cardiovascular or heart symptoms?

Frequent pain or tightness in your chest: Yes/No

Pain or tightness in your chest during physical activity: Yes/No

Pain or tightness in your chest that interferes with your job: Yes/No

In the past two years, have you noticed your heart skipping or missing a beat: Yes/No

Heartburn or indigestion that is not related to eating: Yes/ No

Any other symptoms that you think may be related to heart or circulation problems: Yes/No

7. Do you **currently** take medication for any of the following problems?

Breathing or lung problems: Yes/No

Heart trouble: Yes/No

Blood pressure: Yes/No

Seizures (fits): Yes/No

8. If you've used a respirator, have you **ever had** any of the following problems? (If you've never used a respirator, check the following space and go to question 9:)

Eye irritation: Yes/No

Skin allergies or rashes: Yes/No

Anxiety: Yes/No

General weakness or fatigue: Yes/No

Any other problem that interferes with your use of a respirator: Yes/No

9. Would you like to talk to the health care professional who will review this questionnaire about your answers to this questionnaire: Yes/No

Questions 10 to 15 below must be answered by every employee who has been selected to use either a full-facepiece respirator or a self-contained breathing apparatus (SCBA). For employees who have been selected to use other types of respirators, answering these questions is voluntary.

10. Have you **ever lost** vision in either eye (temporarily or permanently): Yes/No

11. Do you **currently** have any of the following vision problems?

Wear contact lenses: Yes/No

Wear glasses: Yes/No

Color blind: Yes/No

Any other eye or vision problem: Yes/No

12. Have you **ever had** an injury to your ears, including a broken ear drum: Yes/No

13. Do you **currently** have any of the following hearing problems?

Difficulty hearing: Yes/No

Wear a hearing aid: Yes/No

Any other hearing or ear problem: Yes/No

14. Have you **ever had** a back injury: Yes/No

15. Do you **currently** have any of the following musculoskeletal problems?

Weakness in any of your arms, hands, legs, or feet: Yes/No

Back pain: Yes/No

Difficulty fully moving your arms and legs: Yes/No

Pain or stiffness when you lean forward or backward at the waist: Yes/No

Difficulty fully moving your head up or down: Yes/No

Difficulty fully moving your head side to side: Yes/No

Difficulty bending at your knees: Yes/No

Difficulty squatting to the ground: Yes/No

Climbing a flight of stairs or a ladder carrying more than 25 lbs: Yes/No

Any other muscle or skeletal problem that interferes with using a respirator: Yes/No

Part B

Any of the following questions, and other questions not listed, may be added to the questionnaire at the discretion of the health care professional who will review the questionnaire.

1. In your present job, are you working at high altitudes (over 5,000 feet) or in a place that has lower than normal amounts of oxygen: Yes/No

If "yes," do you have feelings of dizziness, shortness of breath, pounding in your chest, or other symptoms when you're working under these conditions: Yes/No

2. At work or at home, have you ever been exposed to hazardous solvents, hazardous airborne chemicals (e.g., gases, fumes, or dust), or have you come into skin contact with hazardous chemicals: Yes/No

If "yes," name the chemicals if you know them:_____

_____

_____

_____

3. Have you ever worked with any of the materials, or under any of the conditions, listed below:

Asbestos: Yes/No

Silica (e.g., in sandblasting): Yes/No

Tungsten/cobalt (e.g., grinding or welding this material): Yes/No

Beryllium: Yes/No

Aluminum: Yes/No

Coal (for example, mining): Yes/No

Iron: Yes/No

Tin: Yes/No

Dusty environments: Yes/No

Any other hazardous exposures: Yes/No

If "yes," describe these exposures:_____

_____

_____

_____

4. List any second jobs or side businesses you have:_____

_____

5. List your previous occupations:_____

_____

_____

6. List your current and previous hobbies:_____

_____

_____

7. Have you been in the military services? Yes/No

If "yes," were you exposed to biological or chemical agents (either in training or combat): Yes/No

8. Have you ever worked on a HAZMAT team? Yes/No

9. Other than medications for breathing and lung problems, heart trouble, blood pressure, and seizures mentioned earlier in this questionnaire, are you taking any other medications for any reason (including over-the-counter medications): Yes/No

If "yes," name the medications if you know them:_____

10. Will you be using any of the following items with your respirator(s)?

HEPA Filters: Yes/No

Canisters (for example, gas masks): Yes/No

Cartridges: Yes/No

11. How often are you expected to use the respirator(s) (circle "yes" or "no" for all answers that apply to you)?:

Escape only (no rescue): Yes/No

Emergency rescue only: Yes/No

Less than 5 hours **per week**: Yes/No

Less than 2 hours **per day**: Yes/No

2 to 4 hours per day: Yes/No

Over 4 hours per day: Yes/No

12. During the period you are using the respirator(s), is your work effort:

Light (less than 200 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift:_____hrs._____mins.

Examples of a light work effort are **sitting** while

writing, typing, drafting, or performing light assembly work; or **standing** while operating a drill press (1-3 lbs.) or controlling machines.

Moderate (200 to 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift:_____hrs._____mins.

Examples of moderate work effort are **sitting** while nailing or filing; **driving** a truck or bus in urban traffic; standing while drilling, nailing, performing assembly work, or transferring a moderate load (about 35 lbs.) at trunk level; **walking** on a level surface about 2 mph or down a 5-degree grade about 3 mph; or **pushing** a wheelbarrow with a heavy load (about 100 lbs.) on a level surface.

Heavy (above 350 kcal per hour): Yes/No

If "yes," how long does this period last during the average shift:_____hrs._____mins.

Examples of heavy work are **lifting** a heavy load (about 50 lbs.) from the floor to your waist or shoulder; working on a loading dock; **shoveling**; **standing** while bricklaying or chipping castings; **walking** up an 8-degree grade about 2 mph; climbing stairs with a heavy load (about 50 lbs.).

13. Will you be wearing protective clothing and/or equipment (other than the respirator) when you're using your respirator: Yes/No

If "yes," describe this protective clothing and/or equipment:_____

_____

14. Will you be working under hot conditions (temperature exceeding 77 deg. F): Yes/No

15. Will you be working under humid conditions: Yes/No

16. Describe the work you'll be doing while you're using your respirator(s)_____

_____

_____

17. Describe any special or hazardous conditions you might encounter when you're using your respirator(s) (for example, confined spaces, life-threatening gases):_____

_____

_____

_____

18. Provide the following information, if you know it, for each toxic substance that you'll be exposed to when you're using your respirator(s):

Name of the first toxic sustance:_____

_____

Estimated maximum exposure level per shift:_____

Duration of exposure per shift:_____

Name of the second toxic substance:_____

Estimated maximum exposure level per shift:_____

Duration of exposure per shift:_____

Name of the third toxic substance:_____

Estimated maximum exposure level per shift:_____

Duration of exposure per shift:_____

The name of any other toxic substances that you'll be exposed to while using your respirator:

_____

_____

_____

_____

_____

_____

19. Describe any special responsibilities you'll have while using your respirator(s) that may affect the safety and well-being of others (for example, rescue, security):

_____

_____

_____

_____

WVSOM Student Medical Screening Form/N95 Respirator Fit Test Questionnaire

1 Date: **2 Name:** _____

3 Clinical Skills 2 _____

4 Age: **5 Height:** **6 Weight:** _____

7 Phone: **8 Do you know how to contact the person who reviews this?** _____

9 Have you worn a mask at work or lab? **YES NO** **10 If YES, type worn** _____

11 Have you ever worn a respirator at work or lab? **YES NO** **12 IF YES, type worn** _____

13 Have you ever had any of the following problems while wearing a respirator? **YES NO NA**

a. eye irritation **c. anxiety** **e. other**
b. skin rash or irritation **d. weakness or fatigue**

14 Smoker: YES NO EX-SMOKER **15 Smoked in the last month: YES NO**
16 Do you have problems with taste, smell or odors? **YES NO**
17 If YES, what kind? _____

18 Have you had any of the following? (Circle ALL that apply)

a. Allergic reactions that interfered with your breathing
b. Claustrophobia
c. Broken ribs or chest injury
d. Chest surgery
e. Seizures
f. Diabetes
g. Lung cancer or other tumor
h. Heart attack or heart failure
i. Angina or chest tightness
j. Irregular heart beat
k. Chest tightness
l. Other heart problems
m Stroke
n. Silicosis or Asbestosis
o. Emphysema
p. Asthma
q. Tuberculosis
r. Wheezing
s. Pneumonia
t. Collapsed lung
u. Chronic Bronchitis
v. Blood pressure problem
w Leg swelling
Heartburn/indigestion
x. unrelated to eating

19 Do you currently have:

A. Shortness of breath while resting
B. Shortness of breath when walking slowly
C. Shortness of breath when walking fast
D. Shortness of breath when climbing stairs
E. Shortness of breath when dressing
F. SOB that interferes with your job
G. Cough that produces phlegm
H. Cough that produced blood
I. Cough when lying down
J. Cough that wakes you at night
K. Chest pain when breathing deeply
L. Irregular heart beat
M Chest pain with activity

20 Do you have any medical problems that might interfere with your wearing a respirator? **YES NO**

If YES, what are they? _____

If you have any present use of a mask or respirator – PLEASE complete 21, 22 and 23

21. When using a respirator, your work effort is usually **LIGHT** **MODERATE** **HEAVY**

22. On average, how many times per week do you usually need to wear a respirator?
_____ 1 or less **_____2 to 4** **_____ almost every shift**

23. When needed, length of time in one shift a respirator is worn.
_____ less than 1 hour **_____1 to 3 hours** **_____more than 3 hours**

24. Do you need to talk about any of your responses with the health care professional who will review this? YES NO

25. ***To the best of my knowledge, the statements above are correct and complete and may be used to whatever extent necessary for evaluating me for an OSHA required respirator.***

STUDENT'S SIGNATURE: _____ ***DATE:*** _____

MEDICAL PROVIDER: _____ ***DATE:*** _____

APPENDIX A

Test Exercises (One Minute per Exercise)

1. **NORMAL BREATHING.**
2. **DEEP BREATHING.** Be certain breaths are deep and regular.
3. **TURNING HEAD FROM SIDE TO SIDE.** Ensure movement is complete. Alert the test subject to not bump the respirator on their shoulders. Have the test subjects' inhale when their heads are at either side.
4. **NODDING HEAD UP AND DOWN.** Be certain motions are complete and made about every second. Alert the test subject to not bump the respirators on their chest. Have the test subject inhale when their heads are up.
5. **TALKING.** Talk slowly aloud. The following paragraph is called the "Rainbow Passage". Reading it aloud will result in a wide range of facial movements and will satisfy the requirements of this exercise.

RAINBOW PASSAGE

When the sunlight strikes raindrops in the air, they act like a prism and form a rainbow. The rainbow is a division of white light into many beautiful colors. These take the shape of a long, round arch with its path high above, and its two ends apparently beyond the horizon. There is, according to legend, a boiling pot of gold at one end. People look, but no one ever finds it. When a man look for something beyond reach, his friends say he is looking for the pot of gold at the end of the rainbow.

6. **BENDING OVER.** Slowly bend over at the waist as if picking up something from the floor. ******* Only complete this test for N95 masks *******
7. **NORMAL BREATHING.**

APPENDIX B

1. **NEGATIVE PRESSURE SEAL CHECK TEST:** A negative air pressure respirator seal check test can be used on air purifying respirators equipped with tightly fitting respiratory inhalation cartridges. This test would be difficult or nearly impossible to carry out on valveless respirators.

   The inhalation opening of the respirator's canisters, cartridges, or filters is closed off by covering it completely with the palms of the hands or by replacing the inhalation seals on canisters so that it will not allow the passage of air. The wearer should simultaneously inhale gently and hold his/her breath for at least 10 seconds.

   If the facepiece collapses slightly and no inward leakage of air is detected, it can be reasonably assured that the fit of the respirator to the wearer is satisfactory.

2. **POSITIVE PRESSURE SEAL CHECK TEST:** A positive air pressure seal check test can be used on respirators equipped with tight fitting respiratory inlets which contain both inhalation and exhalation valves. This test may be difficult or impossible to carry out on valveless respirators.

   To perform the test the exhalation valve should be closed off and then the wearer should exhale gently. The fit of the respirator to the wearer is considered to be satisfactory if a slight positive pressure can be built up inside the face piece without the detection of any outward leakage of air between the sealing surface of the face piece and the respirator wearer's face.

APPENDIX C

Appendix D to §1910.134: Information for Employees Using Respirators When Not Required Under the Standard (Mandatory)

Respirators are an effective method of protection against designated hazards when properly selected and worn. Respirator use is encouraged, even when exposures are below the exposure limit, to provide an additional level of comfort and protection for workers. However, if a respirator is used improperly or not kept clean, the respirator itself can become a hazard to the worker. Sometimes, workers may wear respirators to avoid exposures to hazards, even if the amount of hazardous substance does not exceed the limits set by OSHA standards. If your employer provides respirators for your voluntary use, or if you provide your own respirator, you need to take certain precautions to be sure that the respirator itself does not present a hazard.

You should do the following:

1. Read and heed all instructions provided by the manufacturer on use, maintenance, cleaning and care, and warnings regarding the respirators limitations.

2. Choose respirators certified for use to protect against the contaminant of concern. NIOSH, the National Institute for Occupational Safety and Health of the U.S. Department of Health and Human Services, certifies respirators. A label or statement of certification should appear on the respirator or respirator packaging. It will tell you what the respirator is designed for and how much it will protect you.

3. Do not wear your respirator into atmospheres containing contaminants for which your respirator is not designed to protect against. For example, a respirator designed to filter dust particles will not protect you against gases, vapors, or very small solid particles of fumes or smoke.

4. Keep track of your respirator so that you do not mistakenly use someone else's respirator.

[63 FR 1152, Jan. 8, 1998; 63 FR 20098, 20099, April 23, 1998; assembled at 69 FR 46993, Aug. 4, 2004, 71 FR 16672, April 3, 2006; 71 FR 50187, August 24, 2006]

APPENDIX D

WVSOM Voluntary Use of Respirator

I, _____ , acknowledge that I have received a copy of ***Appendix D to §1910.134: Information for Employees Using Respirators When Not Required Under the Standard (Mandatory)*** and have been offered the opportunity to complete the OSHA Respirator Medical Evaluation Questionnaire at no cost.

_____ _____

Signature Date

_____ _____

RSO Signature Date

APPENDIX E

WVSOM Statewide Campus Contact Information

South East Region **Princeton, Beckley, Lewisburg**

E. Dwight Bundy, D.O., Assist. Dean
400 N Lee St
Lewisburg, WV 24901
ebundy@osteo.wvsom.edu
304-647-6296

Charles Lowry, Director
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1710 Harper Road
Beckley, WV 25801
clowry1@osteo.wvsom.edu
304-461-3746

Northern Region **Wheeling, Weirton**

Ralph Wood, D.O., Assist. Dean
Rm. 232, Ed. & Admin. Bldg.
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2000 Eoff St.
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rwood@osteo.wvsom.edu
304-231-3848

Kathy L. Fry, B.A., Director
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304-231-3842

Eastern Region **Martinsburg, Petersburg, Winchester**

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304-596-6318

Melinda Lowe, MS, Director
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South West Region **Huntington, Ashland**

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304-399-7592

Kellie Cyrus, RN, MS, Director
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2900 1st Ave.
Huntington, WV 25702
kcyrus@osteo.wvsom.edu
304-399-7590

Central Region **Parkersburg, Marietta, Clarksburg, Buckhannon**

Frank Swisher, D.O.
Assistant Dean
Camden Clark Med Ctr.
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Bldg. E., 4th floor
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304-424-4470

Joan Gates
Director
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304-424-4469

Adrienne Tucker
Director
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atucker@osteo.wvsom.edu
304-637-3740

South Central Region ** Respiratory program supervised by CAMC**