

SULLIVAN COUNTY PUBLIC HEALTH SERVICES

<p><u>POLICY: RESPIRATORY PROTECTION POLICY:</u> Staff in direct patient care and community settings require airborne precautions when either Centers for Disease Control (CDC) or the New York State Department Of Health (NYSDOH) recommend the use of N95 disposable particulate respirators.</p> <p><u>PURPOSE:</u> To ensure staff are protected from respiratory hazards through the proper use of respirators.</p> <p><u>RESPONSIBLE PARTY:</u> PH Director, Health Emergency Planner; Tuberculosis Prevention Control Program Coordinator</p>	<p>Original Approval: 12/99</p> <p>Revised: 09/99 06/03 04/10 12/18</p>

EQUIPMENT: Disposable N95 Respirator Masks; Hood and Collar; Fit Test Solution; Sensitivity Solution; Nebulizers One and Two; timer; water; drinking glass

SCOPE AND APPLICATION

1. This policy applies to staff that require respiratory protection for infection control purposes during normal work operations and during non routine or emergency situations.
2. When respiratory protection is required in an occupational setting, respirators must be used in the context of a comprehensive respiratory protection program as required under OSHA’s Respiratory Protection standard (29 CFR 1910.134). This includes fit testing, medical evaluation and training of the worker.
3. For the purpose of this document, respirator refers to N95 or any other NIOSH-certified filtering face piece respirator.
4. The optimal use of respirators requires fit testing, training and medical clearance. Proper use is recommended to maximize effectiveness. The use of facemasks may be considered as an alternative to respirators, although they are not as effective as respirators in preventing inhalation of small particles, which is one potential route of influenza transmission. There is limited evidence available to suggest that use of a respirator without fit-testing may still provide better protection than a facemask against inhalation of small particles. Respirators are not recommended for children or persons who have facial hair ([see FDA website](#)).

Types of work activities which require employees to wear disposable N95 particulate respirators are: Staff having any **close, direct patient contact** where infectious pathogens are in the air. Such diseases include, but are not limited to:

- Suspect, probable or confirmed pandemic influenza
- Suspect, probable or confirmed tuberculosis, smallpox, anthrax, pneumonic plague, measles, varicella, or SARS
- Staff in a community setting or patient’s home having close patient contact while doing contact tracing or infectious disease investigation when either CDC or NYSDOH recommend the use of N95 precautions

Sullivan County Public Health Services will only use CDC/National Institute for Occupational Safety and Health (NIOSH) approved respirators. A list of NIOSH approved respirators can be found at http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/n95list1.html

MEDICAL EVALUATION

Staff assigned to tasks that require respiratory protection must be physically able to perform the task while wearing a respirator. The OSHA Respirator Medical Evaluation Questionnaire will be completed prior to fit testing (see attached- Sec. 1910.134 - Appendix C: OSHA Respirator Medical Evaluation Questionnaire/Appendix 1 – Health Screening)

A follow up medical examination by a physician or other licensed health care professional is required for an employee who answers yes to any question among questions 1 through 8 in Section 2, Part A. Following the medical examination, a written recommendation will be provided regarding the employees ability to use a respirator with any restrictions indicated in writing.

PROPER USE

- All employees are to conduct user seal checks per manufacturer recommendations each time a respirator is applied
- Employees cannot have facial hair come between the sealing surface and face, or that interferes with the respirator functions
- The employee shall leave the work area if the respirator no longer offers adequate protection (strap breaks, saturated with fluid)

CLEANING AND DISINFECTING

- A disposable particulate respirator cannot be cleaned or disinfected.
- There is no specific time limit how long an N95 respirator can be used

For airborne precautions (i.e. TB)

- Discard the respirator if structural integrity is compromised, if breathing becomes labored or when the respirator becomes soiled

For droplet/contact precautions

- Discard the respirator after a single use and perform hand hygiene immediately. (In times of shortage however, consideration can be given to covering the respirator with a surgical mask, discarding the mask after use but reusing the respirator).

STORAGE AND INSPECTION

Staff will inspect the respirator prior to use.

- The disposable respirator will be discarded if there are creases, nicks, cuts or abrasions in the seal area compromising it's structural integrity, or if the filter material is damaged or soiled.
- The respirator straps are checked to ensure they are not cut or damaged
- Make sure the nose clip is in place and functions properly, if applicable.

Respirators are to be stored in a clean, dry area away from heat and sunlight.

TRAINING

Staff will be provided respiratory protection training upon initial assignment to duties where a respirator has been determined necessary and annually thereafter unless a workplace re-evaluation that respiratory protection is no longer necessary.

In-servicing to staff on the proper use of N95 disposable respirators include

- Overview of the program, policies, procedures, OSHA standard, resources.
- Proper fit, improper fit, usage, limitations and capabilities
- Storage and inspection
- Inspecting, donning, removal, seal check and trouble shooting
- Identifying hazards, potential exposure and health effects to these hazards

Staff training is documented and maintained in personnel files for at least three years (Appendix C: Respirator Training and Fit-Testing Record for Qualitative Fit Test)

FIT TESTING

Fit testing will be conducted to those assigned

- Annually
- When the model of respirator changes
- If the employee has changes in facial structure or scarring
- When there is a weight change of 10%.
- Records of fit testing will be maintained for three years

PROCEDURE

- Prepare by attaching hood to collar if required (follow manufacturers instructions)
- Pour one teaspoon of sensitivity solution into nebulizer one
- Pour one teaspoon of Fit Test solution into nebulizer two
- Recap bottles

User Seal Check

The respirator is donned per manufacturer instructions. The user conducts a seal check, using the procedure recommended by the manufacturer. Staff must perform a user seal check each time the respirator is put on.

Reasons to Defer Fit Test

The fit test will not be conducted when there is hair growth (beard, beard growth, stubble, mustache, or sideburns) between the skin and the face piece sealing surface

Sensitivity Test

Rationale: to assure the person being fit tested can detect the sweet or bitter solution at low levels.

The test subject should refrain from eating, drinking or chewing gum for 15 minutes prior to fit testing.

- Have the subject put on hood and collar without the respirator.
- Instruct the subject to breathe through their mouth with tongue extended.
- Inject the aerosol, using nebulizer one with the sensitivity test solution, into the hood through the hole in the hood window. Inject ten squeezes of the bulb, holding the nebulizer upright.
- Ask the subject if they can detect the sweet or bitter taste of the solution. Note the number of squeezes as ten and proceed to the Fit Test.
- If not tasted, inject an additional ten squeezes of the aerosol into the hood. Repeat if necessary and note whether 20 or 30 squeezes produced the taste response.

Fit Test

- Describe the fit test process to the staff being fit tested, and the subjects responsibility to signal when they taste the fit test solution or have any physical distress during the process
- Have the subject don the respirator, and perform a seal check, then have the subject put on the hood, and breathe through their mouth with tongue extended.
- Using nebulizer two, with the fit test solution number two, spray the fit test aerosol using the same number of squeezes as required in the sensitivity test (10, 20, or 30). To maintain an adequate concentration of aerosol during the test, inject one half the number of squeezes (5, 10 or 15) every 30 seconds for the duration of the fit test procedure.
- After the initial injection of the aerosol, ask the subject to perform the following test exercises for 60 seconds each

- **Normal breathing**-while standing and without talking, the subject breathes normally
 - **Deep breathing**- while standing and without hyperventilating, the subject breathes slowly and deeply
 - **Turning head side to side**-while standing the subject turns their head slowly from side to side, inhaling at each side
 - **Moving head up and down**-while standing, the subject moves their head up and down
 - **Talking**-The subject talks or counts backwards loud enough to be heard by the tester.
- When the fit test is complete, record the results.
 - Use warm soapy water to clean the nebulizer and its components. Wipe the inside of the testing chamber if needed. Allow the hood and nebulizers to dry thoroughly before storing.

1.0 References

Centers for Disease Control and Prevention. (2005). *Interim domestic guidance on the use of respirators to prevent transmission of SARS*. Retrieved October 3, 2005, from:

<http://www.cdc.gov/ncidod/sars/respirators.htm>.

Respiratory Protection, 29 C.F.R § 1910 (1998). Retrieved June 6, 2005 from:

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=12716

Core Curriculum on TB, Current Edition, CDC
 29 CFR 1910.134 – Respiratory Protection
 29 CFR 1910.134 Appendix A – Fit Testing Procedures
 29 CFR 1910.134 Appendix B-1 – User Seal Check Procedure

Appendix C: Respirator Training and Fit-Testing Record for Qualitative Fit Test

Section 1 – To be Completed by Employee

Employee Name	Title	Date
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Training

I have received and understood training on each of the subjects checked below : Check

- | | |
|---|--|
| • Review of written Respiratory Protection Program | |
| • Description of the activities and circumstances for which respirator use is required | |
| • Importance of proper fit and the consequences of improper fit | |
| • Importance of proper use, storage, or inspection | |
| • Limitations of this type of respirator | |
| • Appropriate action if respirator becomes damaged, a leak is detected or breathing becomes difficult | |
| • Review of manufacturer instruction sheet on proper donning, performing user seal check, and removing respirator | |
| • How to store respirator and when to discard or reuse | |

Use

Describe anticipated job assignments for which respiratory protection will be required:

Employee's Name	Signature	Date
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Section 2 – To be completed by Fit-Tester

Check One: [] Initial fit-test [] Re-test **Test solution** [] Saccharin [] Bitrex

[] Unable to complete test - list reason _____

[] Failed fit test – list type of respirator(s) tested

Manufacturer	Model Type	Size

[] Successfully completed fit test – list type of respirator(s) tested

Manufacturer	Model Type	Size

Fit Tester's Name	Signature	Date
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Sec. 1910.134 - Appendix C: OSHA Respirator Medical Evaluation Questionnaire

Part A. Section 1. The following information must be provided by every employee who has been selected to use any type of respirator. (Please print)

Name: _____ Date ____/____/____
Age: _____
Height: _____ ft. _____ in. Weight: _____ lbs.
Job title: _____
Phone extension at work: _____
Have you worn a respirator (circle one): Yes/No
If "yes," what type(s)? : _____

Part A. Section 2. (Mandatory) Questions 1 through 9 must be answered by every employee selected to use a respirator. Please check "YES" or "NO" for each question.

Questions		YES	NO
1. Do you currently smoke tobacco, or have you smoked tobacco in the last month?			
2. Have you ever had any of the following conditions?		YES	NO
a.	Seizures (fits)		
b.	Diabetes (sugar disease)		
c.	Allergic reactions that interfere with your breathing		
d.	Claustrophobia (fear of closed-in places)		
e.	Trouble smelling odors		
3. Have you ever had any of the following pulmonary or lung problems?		YES	NO
a.	Asbestosis		
b.	Asthma		
c.	Chronic bronchitis		
d.	Emphysema		
e.	Pneumonia		
f.	Tuberculosis		
g.	Silicosis		
h.	Pneumothorax (collapsed lung)		
i.	Lung cancer		
j.	Broken ribs		
k.	Any chest injuries or surgeries		
l.	Any other lung problem that you've been told about		

4. Do you currently have any of the following symptoms of pulmonary or lung illness:		YES	NO
a.	Shortness of breath		
b.	Shortness of breath when walking fast on level ground or walking up a slight hill or incline		
c.	Shortness of breath when walking with other people at an ordinary pace on level ground		
d.	Have to stop for breath when walking at your own pace on level ground		
e.	Shortness of breath when washing or dressing yourself		
f.	Shortness of breath that interferes with your job		
g.	Coughing that produces phlegm (thick sputum)		
h.	Coughing that wakes you early in the morning		
i.	Coughing that occurs mostly when you are lying down		
j.	Coughing up blood in the last month		
k.	Wheezing		
l.	Wheezing that interferes with your job		
m.	Chest pain when you breathe deeply		
n.	Any other symptoms that you think may be related to lung problems		
5. Have you ever had any of the following cardiovascular or heart problems?		YES	NO
a.	Heart attack		
b.	Stroke		
c.	Angina		
d.	Heart failure		
e.	Swelling in your legs or feet (not caused by walking)		
f.	Heart arrhythmia (heart beating irregularly)		
g.	High blood pressure		
h.	Any other heart problem that you've been told about		
6. Have you ever had any of the following cardiovascular or heart symptoms?		YES	NO
a.	Frequent pain or tightness in your chest		
b.	Pain or tightness in your chest during physical activity		
c.	Pain or tightness in your chest that interferes with your job		
d.	In the past two years, have you noticed your heart skipping or missing a beat?		
e.	Heartburn or indigestion that is not related to eating		
f.	Any other symptoms that you think may be related to heart or circulation problems		
7. Do you currently take medication for any of the following problems?		YES	NO
a.	Breathing or lung problems		
b.	Heart trouble		
c.	Blood pressure		
d.	Seizures (fits)		
8. Have you ever used a respirator? IF NO, go to question 9. If you HAVE used a respirator, have you ever had any of the following problems?		YES	NO
a.	Eye irritation:		
b.	Skin allergies or rashes		
c.	Anxiety:		
d.	General weakness or fatigue?		
e.	Any other problem that interferes with your use of a respirator		
9. Would you like to talk to a health care professional about your answers to this questionnaire?			

Appendix I

Sullivan County Public Health Services

Respiratory Protection Program

Health Screening

POLICY: All personnel who are required by their employer to wear a N-series respirator must be screened for health factors that may affect their ability to wear such equipment. The following procedure will be used to determine which personnel are eligible to wear a respirator and which personnel need to undergo a more intensive medical evaluation. This procedure will be used to screen SCPHS employees as well as other personnel who are part of the public health emergency plan. Personnel who are screened under this program may wear an N-series respirator.

PROCEDURE:

- A. The Health Screen is performed by the county's TB Prevention Control Program Coordinator.
- B. Candidates for fit-testing will complete *Part A*, Section 1 and Part B, Section 2, questions 1 through 9 of the OSHA-mandated Respirator Medical Evaluation Questionnaire.
- C. The TB Control Coordinator will review the questionnaire based on the following criteria in Part A, Section 2.
 1. Anyone who answers "No" to all questions in Section 2 is qualified to wear an N-95 respirator.
 2. A "Yes" answer to question #1 (smoking) does not require additional screening as long as no other answers on the tool require it.
 3. Question #2
 - a. Seizures: A "yes" answer does not require additional screening if the condition is under control and the person has been seizure-free for the past 3 months. Otherwise, must provide a medical clearance statement from their physician.
 - b. Diabetes: A "yes" answer does not require additional screening if the condition is under the supervision of a health care provider.
 - c. Allergic reactions that interfere with breathing--- must provide a medical clearance statement from a health care provider
 - d. Claustrophobia: A "yes" answer does not require additional screening as long as the person is undergoing quantitative fit-testing and feels that donning the mask alone will not cause a claustrophobic reaction. For qualitative fit testing (done inside a hood), the decision as to whether or not they wish to try the fit testing will be left to the individual with the understanding that they can stop the test at any time and remove the hood.
 - e. Trouble smelling odors: A "yes" answer does not require additional screening if the person is undergoing quantitative fit-testing. If they are undergoing qualitative fit testing, they will be instructed to alert the person conducting the fit testing.
 4. Question #3
 - a. Asbestosis: "Yes"— must provide a medical clearance statement from a health care provider.
 - b. Asthma: "Yes"---does not require additional screening if the symptoms occur two times a week or less, if nighttime symptoms occur less than 4 times per month, if the episodes last two days or less (no matter what the severity), and the person is asymptomatic between episodes.
 - c. Chronic bronchitis: "Yes"--- must provide a medical clearance statement from a health care provider.
 - d. Emphysema: "Yes"---must provide a medical clearance statement from a health care provider.
 - e. Pneumonia: "Yes"---does not require further screening if the pneumonia occurred over three months ago and the person meets the criteria for passing all parts of question #4. Otherwise, must provide a medical clearance statement from a health care provider.
 - f. Tuberculosis: "Yes"--- does not require further screening if the tuberculosis treatment is completed and all parts of question #4 are marked "no." Otherwise, must provide a medical

clearance statement from a health care provider.

- g. Silicosis: “Yes”--- must provide a medical clearance statement from a health care provider
 - h. Pneumothorax: “Yes”---does not require further screening if the pneumothorax was due to traumatic injury, the lung is re-inflated, the incident occurred over six months ago, and answers to question #4 do not require further evaluation. Otherwise, must provide a medical clearance statement from a health care provider.
 - i. Lung Cancer: “Yes”---must provide a medical clearance statement from a health care provider
 - j. Broken ribs: “Yes”---does not require further screening if the lungs were not known to be damaged, the incident occurred over six months ago, and answers to question #4 do not require further evaluation. Otherwise, must provide a medical clearance statement from a health care provider.
 - k. Chest injuries or surgeries: “Yes”---does not require further screening if the incident occurred over six months ago, the candidate has been totally asymptomatic for the past three months, and answers to question #4 do not require further evaluation. Otherwise, must provide a medical clearance statement from a health care provider.
 - l. Any other lung problem that you’ve been told about: “Yes”--- must provide a medical clearance statement from a health care provider
5. Question #4
- a. If any answers to the parts of question #4 are marked “yes”--- must provide a medical clearance statement from a health care provider. The only exception is question b: If the person resumes normal breathing within 2 minutes, no further evaluation is needed.
6. Question #5, 6, 7
- a. If any answers to the parts of questions #5, 6, or 7 are marked “yes”--- must provide a medical clearance statement from a health care provider. The following items are exceptions:
 - 5e, swelling in legs or feet that is not caused by walking: does not require additional screening if the condition was only during a pregnancy or has been evaluated by a health care provider and determined not to be of cardiovascular or pulmonary origin.
 - 5f, heart arrhythmia: does not require additional screening if the individual is not taking any medication for the arrhythmia.
 - 5g, high blood pressure: does not require additional screening if the individual has been told by a physician that their blood pressure is under control.
 - 5h, other heart problems: does not require additional screening if the individual has been told they have a heart murmur as long as it does not require any type of treatment or restriction.
 - 6e, heartburn or indigestion that is not related to eating: does not require additional screening if the condition was evaluated by a health care provider and was determined not to be of cardiopulmonary origin.
 - 7a, breathing or lung problems: does not require additional screening if the medication listed is used to control asthma and the individual meets the criteria for asthma listed in section 4.b. above (referring to question #3b on the screening form).
 - 7c, blood pressure medication: does not require additional screening if individual states in item 5g that a physician has told them that their blood pressure is under control.
 - 7d, seizure medication: does not require additional screening if the condition is under control and the person has been seizure-free for the past 3 months.

Question #8

- a. If any of these problems occurred while wearing the type of respirator that the employee is going to be using, must provide a medical clearance statement from a health care provider.
- D. All employees who are cleared through this health screening procedure are eligible to wear an N-series mask. Employees who were required to get a medical clearance statement from a health care provider will be re-screened based on the recommendation on the medical clearance statement.

- E. If, in the Health Screener's opinion, an employee does not pass the initial health screening, based on the criteria in this procedure, due to an answer that is superfluous to the employee's ability to wear a respirator, the screener may discuss the answer with the Department's Medical Director. If the Medical Director agrees that the employee's answer is not pertinent to their ability to wear a respirator, the opinion and rationale of the Department's Medical Director may be documented in the comments section of the Health Screening form (CCHD 64) and the employee may be cleared to wear a respirator.