

APPENDIX C

RESPIRATORY PROTECTION PROGRAM AIRBORNE PATHOGENS AND HAZARDOUS AEROSOLS

PURPOSE

To ensure that personnel who are at risk for exposure to airborne pathogens or hazardous aerosols receive training on the proper techniques for wearing particulate respirators.

POLICY

All staff and visitors that have the potential of exposure to airborne pathogens and/or hazardous aerosols shall be provided with personnel protective equipment (PPE). Respirator fit testing will be conducted on a routine basis as defined by the regulatory agencies.

RESPONSIBILITIES

A. Respiratory Care Services

1. Provide input into N-95 respirator selection process.
2. Perform fit testing procedures for N-95 respirator on employees as needed.
 - a. Maintain listing of employees who have received fit testing and spirometry testing in the department for a period of three years.
 - b. Forward record of fit testing to Personnel for inclusion in employee's personnel file.
 - c. Forward Employee Health Questionnaire/Report to Employee Health for inclusion in employee's confidential medical record.
3. Review respirator fit check procedures with employees as necessary.
4. Provide information to employees in regards to the rationale of the protective devices chosen.
5. Make available a copy of the Respiratory Protection Program to any employee upon request.
6. Annually review the Respiratory Protection Program and make revisions as necessary.

B. Infection Control

1. Provide annual training to employees on the Tuberculosis Exposure Control Plan.

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2. Act as administrative liaison during a Cal/OSHA inspection or follow-up.
 3. Coordinate with department managers to ensure the appropriate exposure control plans are in place and that they are adhered to.
- C. Managers/Supervisors
1. Provide referrals for medical services and/or counseling to employees through occupational health services as needed.
- D. Employee Health Department
1. Maintain employee training records for six (6) years.
 2. Maintain employee respirator fit testing documentation for employees requiring spirometry testing for three years.
- E. Employees
1. Comply with all elements of the Respiratory Protection Program.
 2. Report all exposures of airborne pathogens or hazardous aerosols to an immediate supervisor.
 3. Adhere to safe work practices.

RESPIRATOR TYPES

Only respirators that have been approved by National Institute of Occupational Safety and Health (NIOSH) will be supplied to staff. Visitors will be supplied with a surgical mask. The following is a list of the various types and brands available for use.

- A. N-95 Particulate Respirator - filtration efficiency of 95% of particles having an aerodynamic diameter smaller than one (1) micrometer. A disposable negative pressure mask available in multiple sizes.
- B. Powered Air Purifying Respirator (PAPR) - a motor-driven particulate mask system. This system is considered a positive pressure system and is not dependent on a tight-fitting face seal.

DEFINITIONS

Airborne Pathogens: Bacteria that remain suspended in the air, usually of one to five microns in diameter.

Hazardous Aerosols: Any toxic aerosol that is produced by drugs or other chemicals.

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ENGINEERING CONTROLS

Engineering Controls will be used to minimize or eliminate exposures to airborne pathogens or hazardous aerosols; these controls may include any of the following:

- negative pressure rooms
- portable air filtration units
- aerosol booths
- aerosol tents
- filtered nebulizers
- NIOSH-approved respirators

EMPLOYEE SCREENING

All employees will be screened via a health questionnaire on employment and before protective respirators are utilized. There are very few conditions that preclude the use of respirators. Employees with mild to moderate cardiac or pulmonary disease may have a problem wearing a personal respirator but this is not anticipated. Any employee who by results of the health questionnaire or their own admission of cardiac or pulmonary disease will be further evaluated. The evaluation will consist of pulmonary function screening for FVC, FEV1, FVC/FEV1% and PEFR.

RESPIRATOR TRAINING

Employees will be given instruction and training for the rationale of need for respirators and the potential hazards of not complying with the Respiratory Protection Program. See (2) San Mateo County General Hospital Tuberculosis Control Plan, Section VII, Employee Training, for complete overview of employee training.

In addition, employees will be instructed on:

- an explanation of why a specific type of respirator was chosen;
- how the wearer should inspect, don, fit, check, maintain, store, correctly wear and dispose of their respirator; and
- an opportunity for each wearer to handle, wear, and secure a good facial seal and fit.

FIT TESTING

Qualitative fit testing will be performed for all employees that must wear particulate respirators. See Respiratory Care Services policy and procedure #19.7, "Qualitative Fit Testing," for procedure.

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REFERENCES

Centers for Disease Control and Prevention. "Guidelines for Preventing the Transmission of Tuberculosis in Health Care Facilities." *Morbidity and Mortality Weekly Report* vol. 43, NoRR-13, October 94.

HESIS Fact Sheet. "Guidelines for Selecting Respirators for Protection Against Tuberculosis." California Occupational Health Program, 1997

Fraser, V. Respirators and Fit Testing. *Infection Control and Hospital Epidemiology*, 1996; Vol. 17: 633-635.

Tuberculosis Exposure Control Plan - San Mateo County General Hospital, December 1995.

Cal/OSHA Interim Tuberculosis Control Enforcement Guidelines, March 1, 1997.

SAN MATEO COUNTY DIVISION OF HOSPITALS AND CLINICS
RESPIRATORY PROTECTION PROGRAM

Employee: _____
(please print)

Date: _____

FIT TESTING PROCEDURE

Number (10, 20, or 30) of squeezes of saccharin solution to reach sensitivity: _____

Check One

- | | | |
|----------------------------------|------------------------------|-----------------------------|
| Detected during normal breathing | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Detected during deep breathing | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Detected during side to side | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Detected during up and down | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Detected during talking | <input type="checkbox"/> yes | <input type="checkbox"/> no |
| Detected during normal breathing | <input type="checkbox"/> yes | <input type="checkbox"/> no |

RECOMMENDED RESPIRATOR STYLE AND SIZE: _____

COMMENTS: _____

Person conducting test: _____

EMPLOYEE VERIFICATION AND ACKNOWLEDGMENT

This is to acknowledge that I have been instructed on the proper use of a personal protective respirator.

In addition, I have been offered a copy of the Respiratory Protection Program. I further understand that this program contains important information in regards to my safety and that I must maintain a familiarity with the program. I understand that I must comply with all policies and procedures of the Respiratory Protection Program or face possible disciplinary action.

Employee's Signature

SAN MATEO COUNTY GENERAL HOSPITAL
RESPIRATORY PROTECTION PROGRAM
EMPLOYEE HEALTH QUESTIONNAIRE/REPORT

Name: _____ Date: _____

SS#: _____ Unit: _____

Age: _____ Sex: _____ Height: _____

Check One

History of Pulmonary Disease yes no

History of Cardiac Disease yes no

History of Allergic Rhinitis yes no

Claustrophobia yes no

Smoking History

non-smoker; current smoker; former smoker; _____ pack(s) year(s) _____

RESPIRATOR USE CRITERIA

The following parameters are guidelines for respirator usage. Actual results may vary among individuals.

	FEV1	FEV1/FVC %
Should tolerate respirator well	> or = 2.5	> or = 65%
May tolerate respirator well	1.7 to 2.5	50% - 65%
Least likely to tolerate	< or = 1.7	> than 50%

SPIROMETRY TESTING RESULTS

Spirometry testing may be completed for individuals with prior history of pulmonary and/or cardiac disease.

	Predicted	Actual	% Predicted
FVC	_____	_____	_____
FEV	_____	_____	_____
FEV1/FVC%	_____	_____	_____

Test performed by: _____

PERIODIC RESPIRATOR EVALUATION FORM

Respirator fit testing determines whether a particular brand, model, and size of respirator fits well enough to prevent detection of leakage around the face seal. This form will help you and the director of the fit testing program decide if additional medical evaluation or fit testing is indicated at this time.

Please answer "yes" or "no" to the following questions:

1. I have gained or lost a significant ($\geq 10\%$ of body weight) amount of weight since I was last fit tested. yes no
 2. I have grown or shaved a beard or mustache since I was last fit tested. yes no
 3. I have a significant, new scar on my face in the respirator area. yes no
 4. I have lost more than one tooth since I was last fit tested. yes no
 5. I have had facial surgery since I was last fit tested. yes no
 6. During the last year I have had health problems that could make it hard to use a respirator. yes no
 7. I have trouble breathing when I wear my respirator. yes no
- Explanation: _____
8. I have questions about how my respirator fits or works. yes no
 9. I would like to be fit tested again. yes no
 10. Approximately how many times have you used your respirator this year? _____

Medical reviewer to complete bottom portion of form.

Date fit tested: _____ Respirator brand, model & size: _____

Able to demonstrate positive & negative fit check technique? yes no

Refer for further medical evaluation Refer for fit testing

Passed respirator review

Employee Signature Date

Review Conducted By Date

Print Employee Name

Employee Department