

This bulletin reviews the use of N95 respirators and PAPRs (Powered Air Purifying Respirators) in healthcare settings.

Respirators Used in Healthcare Environment

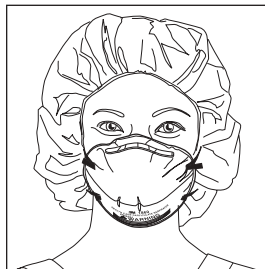
The purpose of a respirator is to help reduce the wearer's exposure to airborne contaminants to levels determined acceptable by regulatory agencies and health organizations. However, no safe exposure level (i.e. the amount you can inhale without adverse health effects) has been set for biological aerosols. Therefore, while respirators can reduce exposures, they cannot eliminate the risk of contracting infection, illness, or disease.

The use of respirators in healthcare settings is regulated by government agencies and use of N95 respirators has been designated in cases with known or suspect SARS and with *Mycobacterium tuberculosis* patients. Refer

to the OSHA web site regarding requirements for a respiratory protection program: www.osha.gov.

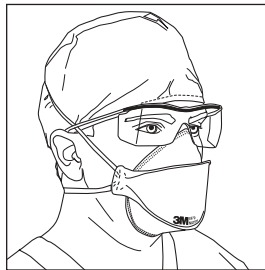
Despite high filtration properties of some surgical or procedural masks, they cannot be designated as respirators unless they meet criteria determined by the National Institute for Occupational Safety and Health (NIOSH), a federal agency and branch of the Department of Health and Human Services, which tests and certifies respirators. Approved respirators have the NIOSH label on the respirator and package. NIOSH also conducts in-depth research on safety and health issues, provides technical assistance and recommends standards for adoption by OSHA.

What is an N95 Respirator?



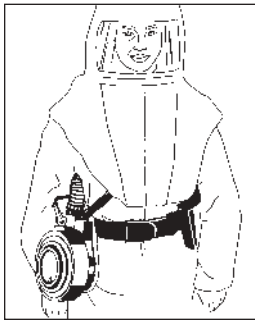
An N95 is a half-face air-purifying respirator — a respirator that fits over the nose and mouth for use against certain particles. This class of respirator has an assigned protection factor of 10, which in essence means it will reduce airborne exposure by a factor of 10.

The CDC recommends, at a minimum, the use of disposable N95 particulate respirators for aerosol-generating procedures performed on patients known or suspected to be infected with TB or SARS.



For the most current information on CDC recommendations for use of respirators with SARS visit web site: www.cdc.gov/ncidod/sars/respirators.htm.

● **What is a PAPR?**



A PAPR is a powered air-purifying respirator that uses a blower to force ambient air through air-purifying elements into a loose-fitting facepiece and/or hood that covers the entire face and head. A battery and cartridge fit at the waist.

PAPRs and respirators with exhalation valves should not be used in healthcare environments requiring a sterile environment such as the operating room. For patient care outside a sterile environment, loose-fitting PAPRs are sometimes selected for persons who cannot be fit tested and those with facial hair that interferes with the respirator-to-skin seal.

Advantages of PAPR	Disadvantages of PAPR
Does not require fit testing if head cover, hoods or helmets are used	Equipment must be: • cleaned • stored • maintained • disinfected • inspected
May be an option for individuals who have facial hair or are unable to fit N95 respirator models	Batteries must be stocked and kept charged
Has positive airflow therefore no breathing resistance	May not be used in a sterile environment
Provides a higher level of respiratory protection than half (e.g., N95) facepiece	Special protocols need to be instituted for removing, handling and decontaminating them between patients
	The use of a PAPR may increase the complexity involved in the removal and decontamination of the equipment and may increase the potential risk of self-contamination.

● **Re-Use of Respirators**

Considerations for re-use of any respirator in a health care environment must not only include the regulatory requirements for use of respirators in occupational settings, but also the infection control policies and procedures of the health care facility. Infection control procedures should include the proper sequencing of events such as removal of PPE to reduce the potential of cross-contamination if contact transmission is of concern.

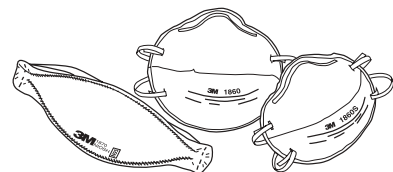
For reusable half and full-facepiece respirators (N95's) and for PAPRs, the requirements for cleaning, disinfecting, inspection, storage and maintenance must also be addressed.

If reusable facepieces or PAPR's are chosen, specific protocols for removing, handling and decontaminating them safely between patients should be in place.

● **3M Respirators**

3M Health Care offers two N95 respirators specifically for healthcare professionals:

- The 1860 and 1860S (small) is a cone-molded respirator;
- The 1870 three-panel, flat-fold respirator.



Our 3M Health Care Customer Helpline is available if you have additional questions concerning 3M Health Care masks and respirators at **800 228 3957** or visit our web site at **www.3M.com/healthcaremasks**.



Health Care

3M Center, Building 275-4E-01
 St. Paul, MN 55144-1000
 USA
 1-800-228-3957
 healthcare@3M.com
 www.3M.com/healthcare

3M Canada

P.O. Box 5757
 London, Ontario N6A 4T1
 Canada
 1-800-563-2921



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Printed in U.S.A. 2004.01.01a
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