

Respirator Awareness in the Healthcare Setting

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BE AWARE

- Follow the guidance of your organization's respiratory protection program, including medical clearance
- Be sure you are using a NIOSH-approved respirator
- Get fit-tested on an annual basis
- Know how to don and doff the specific brand and model of respirator you are using
- Know how to use the respirator safely and effectively

Myth or Fact: Surgical Masks and N95 Respirators Perform the Same Function?

It's a Myth

N95s form a seal around the user's face, preventing particles from entering. Surgical masks do not, so they don't protect workers from inhaling small particles that may be toxic or cause infection.

Employers and workers must understand the significant differences between these two types of personal protective equipment. The decision whether or not to require workers to use either surgical masks or respirators is based upon a hazard analysis of the workers' specific work environments, including current epidemiology; the different protective properties of each type of personal protective equipment; and the availability of equipment.

Healthcare workers in hospitals, skilled nursing facilities, clinics, and physician offices can be exposed to serious infectious diseases, such as influenza, tuberculosis, measles, and meningitis. The potential for exposure is not limited to physicians, nurses, and support personnel in direct patient care. It extends to those delivering food, cleaning patient rooms, and performing maintenance. Staff in healthcare workplaces must be trained and equipped to protect themselves and prevent the spread of these diseases. Our healthcare community must also be prepared to protect workers whenever a novel pathogen emerges, such as the 2009 H1N1 influenza.

Wearing appropriate respiratory

protection when necessary is a vital line of defense. In healthcare, the N95 filtering facepiece respirator is the most commonly used.

Employers and employees need to follow safety and health standards established by the Occupational Safety and Health Administration (OSHA), the Joint Commission, the Food and Drug Administration (FDA), the Centers for Medicare and Medicaid (CMS), and other organizations.



Respirator Selection and Medical Evaluation

Where respirators are required by employers, they must be NIOSH-approved, selected based on the hazards, and used in the context of a comprehensive respiratory protection program, (see OSHA standard 29 CFR 1910.134, or www.osha.gov/SLTC/respiratoryprotection/index.html).

OSHA requires a medical evaluation to ensure that workers can perform work tasks while wearing a respirator. For many workers, medical evaluation may be accomplished by having a physician or other licensed healthcare provider review a respiratory questionnaire completed by the worker (found in Appendix C of

OSHA's Respiratory Protection standard, 29 CFR 1910.134) to determine if the worker can be medically cleared to use a respirator.

After employees are medically cleared, OSHA requires that they be fit tested before performing work requiring a respirator and at least annually thereafter.

Protection Against Infectious Diseases

Respiratory protection is one important component of an effective infection control program and an effective employee health program. Respirators for protection against infectious diseases must be used effectively and in compliance with national and state health and safety standards.

Respirators should only be used when engineering control systems are not feasible.



Engineering control systems, such as adequate ventilation or scrubbing of contaminants, are the preferred control methods for reducing worker exposures.

Used respirators are considered contaminated and ideally should be discarded after each patient encounter. Disposable N95 respirators worn during aerosol-generating procedures should be discarded after the procedure.

It is important to medically evaluate workers to ensure that they can perform work tasks while wearing a respirator.

How Do Respirators and Surgical Masks Work?

Respirators protect the user in two ways. The first is by the removal of contaminants from the air. Respirators of this type include particulate respirators, which filter out airborne particles, and air-purifying respirators with cartridges/canisters which filter out chemicals and gases. Other respirators protect by supplying clean air from a source independent from the work area. Respirators that fall into this category include powered air purifying respirators (PAPR), which use air from a remote source, and self-contained breathing apparatus (SCBA), which includes an air supply that is carried by the user.

Respirators come in various sizes and must be individually selected to fit the wearer's face and to provide a tight seal. A proper seal between the user's face and the respirator forces inhaled air to be pulled through the respirator's filter material and not through gaps between the face and respirator.

Surgical masks are used as a physical barrier to protect the user from hazards, such as splashes of large droplets of blood or body fluids.

Surgical masks also protect other people against infection from the person wearing the surgical mask. Such masks trap large particles of body fluids that may contain bacteria or viruses expelled by the wearer.

Surgical masks are used for several different purposes, including the following:

Placed on sick people to limit the spread of infectious respiratory secretions to others.

Worn by healthcare providers to prevent accidental contamination of patients' wounds by the organisms normally present in mucus and saliva.

Worn by workers to protect themselves from splashes or sprays of blood or bodily fluids; they may also keep contaminated fingers/hands away from the mouth and nose.

Worn by healthcare providers following standard and droplet precautions in a healthcare setting.

Surgical masks are not designed or certified to prevent the inhalation of small airborne contaminants.

These particles are not visible to the naked eye but may still be capable of causing infection. Surgical masks are not designed to seal tightly against the user's face. Their ability to filter small particles varies significantly based upon the type of material used to make the surgical mask, so they cannot be relied upon to protect workers against airborne infectious agents.



Resources

NIOSH Topic Respirator Page

<http://www.cdc.gov/niosh/topics/respirators>

Respirator Trusted Source Information Page

http://www.cdc.gov/niosh/npptl/topics/respirators/disp_part/RespSource.html

OSHA Respirator Topic Page

<https://www.osha.gov/SLTC/respiratoryprotection/index.html>

OSHA Respirator e-Tool

<https://www.osha.gov/SLTC/etools/respiratory/index.html>

OSHA Respiratory Protection for Healthcare Workers Training Video

<http://www.dol.gov/doll/media/webcast/20110112-respirators>

OSHA Fit Testing Procedures

https://www.osha.gov/pls/oshaweb/owadis.show_document?p_table=STANDARDS&p_id=9780

OSHA Topic Pandemic Influenza

<https://www.osha.gov/dsg/topics/pandemicflu/index.html>

User Alerts and Safety Bulletins:

<http://www.cdc.gov/niosh/npptl/usernotices/default.html>

Respirator Use in Health Care Workplaces – a Toolkit for Respirator Program Administrators

<http://www.cdph.ca.gov/programs/ohb/Pages/RespToolkit.aspx>

2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings

<http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.pdf>

Know It's NIOSH-Approved: Example of Exterior Markings on a NIOSH-Approved Filtering Facepiece Respirator

- NIOSH TC Approval Number - TC-84A-xxxx
- Brand name, registered trademark, or an easily understood abbreviation
- NIOSH name in block letters or a NIOSH logo
- Filter Class (N, P, or R) and Filter Efficiency Level (95, 99, or 100)
- Lot Number - recommended but not required
- Model Number



[KnowIts.NIOSH.gov](http://www.knowits.niosh.gov)

NH Occupational Health Surveillance Program

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