

Masks and PPE in the School Setting

Masks, facial cloth coverings, PPE (personal protective equipment), and respirator are all used interchangeably yet have distinct meanings.



Governor Scott demonstrating how to wear a facial cloth covering.
<https://www.sevendaysvt.com/vermont/phil-scott/Content?oid=30199174>

A facial cloth covering

These are pieces of cloth that cover the nose and mouth of the wearer. They help keep the wearer from spreading respiratory secretions when talking, sneezing, or coughing, and therefore provide some protection for the people around them. Depending on the material and number of layers, they may provide some protection for the wearer but that is not their prime function. Which type of facial cloth covering to wear is dependent on a number of factors. Data to suggest which type of facial cloth covering best prevents spread of respiratory droplets is sparse and based on adults or research conditions that may not mimic real life pediatric experiences. We do not recommend that young children use facial cloth coverings that tie. Generally, we recommend coverings made of at least two layers. Materials with tighter weaves are more likely to be effective at preventing spread of respiratory secretions than materials with loose weaves. Based on very small experiments in adults, single layer gaiters trap the least amount of respiratory droplets. Two layer gaiters trap more than single layer gaiters. Gaiters doubled on themselves are likely to approach the efficacy of two layers of cotton T-shirt material. Facial cloth coverings should be changed if wet or soiled and washed each day.

We consider all other types of masking listed below as PPE as they are intended to protect the wearer (and will also help prevent transmission).



A standard procedure (surgical) mask

Procedure (or surgical) mask

A procedure mask is a loose-fitting, disposable device cleared by the U.S. Food and Drug Administration that creates a physical barrier between the mouth and nose of the wearer and the environment. A surgical mask helps block large-particle droplets, splashes, sprays, or splatter that may contain bacteria or viruses from reaching the wearer's mouth and nose. Surgical masks also help keep the wearer from spreading respiratory secretions when talking, sneezing, or coughing. Surgical masks are for single-day use and should be replaced if wet or soiled. Currently, the National Academy of Sciences recommends all teachers wear procedure masks in the school environment.



Window (clear) mask

This is a modification of a procedure mask so that the lips of the wearer can be seen. These masks are used in special circumstances when it is critical for the student to be able to see the wearer's lips.

◀ One of many different clear mask designs. All are in short supply.
<https://safenclear.com/product/clear-view-window-mask/>



A medical grade fitted N95 mask with multiple markings attesting to the standards met by the mask. These masks require a proper fitting. Under special conditions, a school nurse may need a mask such as this.

https://www.3m.com/3M/en_US/company-us/all-3m-products/-/3M-Health-Care-Particulate-Respirator-and-Surgical-Mask-1860S-Small-N95-120-EA-Case/?N=5002385+3294795977&rt=rud

Respirator

A respirator is a personal protective device that covers at least the nose and mouth and is designed to protect the wearer from not only large droplet particles but also small droplets and aerosols.

The National Institute for Occupational Safety and Health (NIOSH) evaluates, tests, and approves respirators. Respirators include the marking on the device itself and are intended for maximum wearer protection. They will also very effectively keep the wearer from spreading respiratory secretions when talking, sneezing, or coughing. Respirators tend to be quite a bit thicker, less flexible, and harder to breathe through than surgical masks. Fit-tested respirators (i.e., respirators that are tested for tight fit) provide the greatest protection. Others come in a single size and may not be fit tested. These offer excellent protection but not to the same degree as those that are fitted to the face.

We describe respirators with a letter and a number. The first part of the rating can either be an N, R, P, or K. The letters N, R, and P are US standards and describe how tight the weave and how resistant the device is to oil. In medical and school environment we use “N” masks, which protect against solid and liquid airborne particles but not oil. The letter “K” refers to a Chinese standard rather than a US standard for respirators, and it does not necessarily exactly match US standards. The numeric half of the rating refers to the percentage of 0.3 micron particles the filter will remove from the air. An “95” mask means the mask will filter out at least 95% of the particles.

A valved N95 mask allows for direct exhalation of air by the wearer. They should NOT be allowed in the school setting as they are specifically designed to protect the wearer and provide NO protection against transmission to others.



A non-medical N95 that can be purchased in the hardware store. There are no general indications for this type of mask in the school environment unless someone desires increased protection.

<https://www.thehindu.com/news/national/want-n95-mask-get-doctors-prescription/article31003645.ece>



A KN95 mask. The shape may be different from the US style mask as are the loops that attach the mask to the face. These masks are not fit tested.

<https://coronabuffer.com/shop/KN95-mask/>



This is a picture of a valved KN95 mask. These are not fit tested. They should not be allowed in the school setting.

<https://pycom.io/product/KN95-face-mask-with-valve-carbon-pp-e/>

Mask	Protect other people	Protect wearer	Fit tested	Reusable	Indications	Notes
Facial cloth coverings	Yes	Little to modest depending on number of layers and material	No	Yes; should be washed each day	For all students	
Procedure (surgical mask)	Yes	Moderate	No	No	National Academy of Sciences recommends for all teachers and staff in schools	Easy to wear
KN95 mask	Yes	Moderate to High	No	Yes	There is no general recommendation to wear these in the school environment but if available, they are an alternative to surgical masks for teachers/staff	In certain situations, these and other similar masks have been used in the medical environment in lieu of fitted N95 masks.
N95 mask	Yes	High	No	Yes	There is no general recommendation to wear these in the school environment	
Fitted N95 mask	Yes	Very High	Yes	Yes	Not indicated except for medical purposes	School nurses may use in special circumstances

This information is current as of August 31, 2020 and reflects the opinion of the Pediatric Infectious Diseases Service.