



## Guidance for Healthcare Personnel on the Use of Personal Protective Equipment (PPE) in Schools During COVID-19

**Disclaimer:** This document is NOT a substitute for nursing judgment and does not dictate an exclusive course of action. State and district laws and policies should be followed. This document is based on current research available at the time of publishing. SARS-CoV-2 is the virus that causes the disease COVID-19. This document will use the term COVID-19 throughout.

### Introduction

Schools should only resume in-person education with direction from state and or local authorities during the COVID-19 pandemic. Unique challenges arise when implementing recommended infection control measures for large gatherings of children and staff in one building. The role of non-PPE-based control measures, such as handwashing and respiratory hygiene, strategies to promote physical (social) distancing of at least 6 feet and cloth face coverings play an important role in protecting staff and students in our schools. Children may have health conditions or other disabilities that require direct care from a staff member. Therefore, guidance must be provided to the schools to determine who should be wearing which PPE and when.

### Section 1 – Purpose & Definitions

#### Purpose:

This document is for health care personnel guidance purposes only and is not tied to supply procurement or allocation. The guidance included in this document that addresses specific types of PPE, does not in any way avow that those materials will be made available by the authors or any other supplier. Facilities operators and school nutrition services personnel should refer to their industry guidance.

#### Definitions:

**Personal Protective Equipment (PPE):** According to Occupational Safety and Health Administration (OSHA) personal protective equipment is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses.<sup>1</sup> The U.S. Centers for Disease Control and



Prevention (CDC) states PPE is used every day by health care personnel (HCP) to protect themselves, patients, and others when providing care, including gowns, gloves, surgical masks, respirators, and face shields. Based on local and regional situational analysis of PPE supplies, surgical masks are an acceptable alternative when the supply chain of respirators cannot meet the demand. During this time, available respirators should be prioritized for procedures that are likely to generate respiratory aerosols, which would pose the highest exposure risk to HCP. U.S. CDC notes that PPE shortages are currently posing a tremendous challenge to the US healthcare system because of the COVID-19 pandemic.<sup>2</sup> As such, CDC recommends that use of specific types of PPE discussed in this document (e.g., facemasks, respirators) be limited to HCP.

**Eye protection:** Goggles and face shields provide eye protection.<sup>3</sup> Personal eyeglasses and contact lenses are NOT considered adequate eye protection.

**Facemask:** Use facemasks according to product labeling and local, state, and federal requirements. Facemasks that are not regulated by FDA, such as some procedure masks typically used for isolation purposes, may not provide protection against splashes and sprays. A facemask provides barrier protection against large-particle droplets and does not effectively filter inhaled small particles, fumes, or vapors. A surgical mask is primarily used to protect patients and healthcare workers from people who may have a respiratory infection or to protect sterilized or disinfected medical devices and supplies.<sup>4</sup>

**Face shields:** A face shield is a form of PPE that provides eye protection. To provide the wearer full protection from respiratory droplets, it must be used with a facemask. The use of face shields is not a substitute for facemask or cloth face coverings<sup>3</sup>.

**Gowns (disposable):** Depending on the product, gowns may be resistant or impermeable to fluids. Gowns need to be changed between potentially infectious cases to prevent cross contamination.

**Healthcare Personnel:** HCP in schools include, but are not limited to, school nurses, designated health assistants, therapists, school-based health center personnel, clinical students and trainees, and other school personnel providing close contact interventions.



**Lab coat or cloth washable covering (scrub jacket or smock):** Cloth is not impermeable to fluids but provides a removable layer. Soiled clothing should be placed into a dissolvable laundry bag. If onsite laundry service is not available, consider contracting with an industrial laundry service. Worn or contaminated clothing is required to be laundered daily.

**Respirator:** A respirator is a personal protective device that is worn on the face, covers at least the nose and mouth, and is used to reduce the wearer's risk of inhaling hazardous airborne particles (including dust particles and infectious agents), gases, or vapors. Respirators are certified by the CDC/NIOSH, including those intended for use in healthcare.<sup>4</sup>

**Universal Source Controls:** Continued community transmission has increased the number of individuals potentially exposed to and infectious with COVID-19. Fever and symptom screening have proven to be relatively ineffective in identifying individuals who are infected but otherwise asymptomatic or pre-symptomatic. Additional interventions are needed to limit the unrecognized introduction of COVID-19 into school settings by these individuals. Schools should adopt aggressive source control measures such as hand washing, respiratory hygiene, physical distancing, and frequent cleaning and disinfection of high touch areas. Additionally, requiring everyone entering the facility to wear a cloth face covering (if tolerated) while in the building, regardless of symptoms is consistent with a recommendation to the general public advising them to wear a cloth face covering whenever they must leave their home.<sup>5</sup>

**Cloth face covering:** These include textile (cloth) covers that are not PPE. It is uncertain whether cloth face coverings protect the wearer.<sup>5</sup> They are intended to keep the wearer from spreading respiratory secretions when talking, sneezing, or coughing. Guidance on design, use, and maintenance of cloth face coverings is available from CDC and other public health authorities.<sup>6</sup>

## **Section 2 – Recommended PPE by Task Classification**

This PPE guidance is based on best-practice recommendations from federal authorities including the Centers for Disease Control and Prevention (CDC) and the United States Department of Labor, Occupational Health and Safety Administration. As the published scientific literature surrounding COVID-19 evolves, the following recommendations and guidance are subject to change



PPE Types	Situation -- Lowest Risk	Situation – Moderate Risk	Situation -- Highest Risk	Notes:
	School personnel and students must interact, and physical distancing cannot always be maintained. **	Tasks include those that require close/direct contact with (i.e., within 6 feet of) people who are not known or suspected to have COVID-19.	Tasks include the physical assessment of any individual suspected of having COVID-19. Aerosol-generating procedures.	PPE should be used as a “last resort” when administrative or engineering controls are not able to eliminate the hazard. PPE is only effective if worn properly. Training on the types of PPE, how to properly put on/take off, the limitations and care instructions must be provided to employees who wear PPE.
Cloth Face Covering (Not PPE)	<b>X</b>			Provides source control, i.e. control that prevents transmission of potentially infectious respiratory droplets. These are not PPE.
Gloves		<b>X – situation dependent</b>	<b>X</b>	Wearing gloves is not a substitute for hand washing with soap and running water. Washing hands between patients/students will prevent cross contamination.
Eye Protection		<b>X – situation dependent</b>	<b>X</b>	Provides protection from fluid entry into eyes along with mouth and nose if worn with fluid resistant surgical mask.
Surgical Facemask		<b>X</b>	<b>X</b>	Provides source control and protection from fluid entry into the nose and mouth. As soon as possible and as tolerated, sick individuals should wear a surgical mask until they are picked up from school or leave to a health care facility.
Gown / Coveralls			<b>X</b>	Depending on product, may be resistant or impermeable to fluids. Needs to be changed between care for presumptive cases to prevent cross contamination.



Respirator (N95) *			<b>X</b>	Best practices prior to the COVID-19 pandemic was for healthcare workers to use N95 or greater protection respirators when in contact with patients who may spread infectious diseases via airborne secretions. If respirator is determined not essential, or is unavailable due to shortage, wear facemask and face shield.
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**Moderate Risk:** Tasks include those that require close contact with (i.e., within 6 feet of) people who are not known or suspected to have COVID-19. These precautions are recommended since some people with the disease may be asymptomatic or in the pre-symptomatic phase of illness at the time of contact. Although there is risk with these tasks, not all PPE listed may be needed for all situations. These tasks include, but are not limited to first aid, oral medication administration, vision screening, hearing screening, consultation, blood glucose checks (diabetes care), metered-dose inhalers (MDIs) for students/staff with asthma.<sup>7</sup>

**High Risk:** Tasks that require close contact with (i.e. within 6 feet of) people who are not known or suspected COVID-19 patients but are undergoing procedures with potential for aerosol generation or body fluid contact, such as, but not limited to: open suctioning of airways, sputum induction, non-invasive ventilation (e.g., BiPAP, CPAP), manual ventilation. It would be advisable to do this assessment and any other airway procedures in a well-ventilated room isolated from others. Due to limited availability of data, it is uncertain whether aerosols generated by nebulizer treatments are potentially infectious. MDIs can be used as young as 6 months of age; families should contact primary care provider for education on use of MDI prior to school. During this COVID-19 pandemic, nebulizer treatments at school should be reserved for students who cannot use or do not have access to an inhaler (with or without spacer or face mask).<sup>8</sup> Since some people can be asymptomatic with COVID-19 reasonable attempts should be made to reduce possible aerosol and respiratory droplet induction during care or treatment. Proper ventilation and cleaning of the room must be completed before using again.

*School Setting Notes:*

\* To use N-95s schools must have a fit test program in place. If this is not in place or there is a shortage, a surgical face mask should be used.<sup>9</sup> Some schools may have access to KN95 respirators that have been declassified and *not* suitable for highest risk tasks without a full-face shield.<sup>10</sup> They may also be allowed as non-PPE per individual states.

\*\* The use of cloth face coverings for students will be determined by multiple state and local stakeholders, public health data, and health accommodations.



### **Section 3: Respiratory Protection Program**

These steps are required to have and to use N95s in a school:

1. Each School District or School System must have a current Respiratory Protection Plan/ Policy (RPP) that has been formally adopted in place.
2. All Employees who are identified as candidates to wear an N95, must review the adopted Respiratory Protection Plan/Policy and acknowledge via signature and date of review.
3. Employee must complete an employer provided respiratory medical questionnaire, which will then be submitted confidentially to the employers' duly appointed Medical authority.
4. Medical Authority will review and approve or deny Employee as a candidate for Fit Testing.
5. Employee will be fit tested to qualify for use of an N95, only those who pass are permitted to use an N95.

Fit testing should occur at least annually. Considerations for re-testing before the recommended interval, may include but are not limited to, significant weight loss or gain (this occasionally comes up as an issue in the hospital particularly for women who got fit tested either during pregnancy, or became pregnant after their fit test).

### **Section 4: PPE Supply Optimization**

While schools are typically working with an essentially healthy population, occasions arise, particularly for school health personnel, where PPE use is required, e.g., during symptom screening, physical assessment, health care procedure, or for cleaning and disinfection of spaces. If supplies of PPE become low schools should be aware of conservation or reuse measures such as:

- Shifting from disposable PPE to reusable PPE (e.g. reusable eye protection including goggles and face shields and cloth isolation gowns).
- Implementing extended use policies for eye protection, facemasks, and N95s.<sup>11</sup>
- Utilizing expired PPE for fit testing and providing training in donning and doffing.

#### **Guidance relevant to PPE optimization strategies**

- [CDC's Guidance for Laundering Reusable Gowns](#)
- [CDC's Guidance for Optimizing PPE](#)



- [CDC's Guidance for Using PPE](#)
- [FDA Emergency Use Authorization for Respiratory Protection](#)
- [Use of Respirators and Surgical Masks for Protection Against Healthcare Hazards](#)

## References

1. Personal Protective Equipment. U.S. Department of Labor, Occupational Health and Safety Administration. <https://www.osha.gov/SLTC/personalprotectiveequipment/> Accessed July 1, 2020.
2. Using Personal Protective Equipment. U.S. CDC website. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html> Accessed June 27, 2020.
3. Eye and Face Protection. U.S. Department of Labor, Occupational Safety and Health Administration website. <https://www.osha.gov/SLTC/etools/eyeandface/glossary.html> Accessed July 1, 2020.
4. N95 Respirators, Surgical Face Masks and Face Masks. U.S. Food and Drug Administration. <https://www.fda.gov/medical-devices/personal-protective-equipment-infection-control/n95-respirators-surgical-masks-and-face-masks#s2> Accessed June 25, 2020.
5. Use of Cloth Face Coverings to Help Slow the Spread of COVID-19. U.S. CDC website. <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html> Accessed June 28, 2020.
6. Considerations for Wearing Cloth Face Coverings. U.S. CDC website. <https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover-guidance.html> Accessed July 1, 2020.
7. Interim Guidance for K-12 Schools: FAQs for Administrators, Teachers, and Parents. U.S. CDC website. <https://www.cdc.gov/coronavirus/2019-ncov/community/schools-childcare/schools-faq.html#Administrators> Accessed June 15, 2020.
8. Interim Infection Prevention and Control Recommendations for Healthcare Personnel During the Coronavirus Disease 2019 (COVID-19) Pandemic. U.S. CDC website. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control-recommendations.html#adhere> Accessed June 20, 2020.
9. Healthcare Respiratory Protection Resources. U.S. CDC, National Personal Protective Technology Laboratory website. <https://www.cdc.gov/niosh/npptl/hospresptoolkit/fittesting.html> Accessed June 15, 2020.
10. Certain Filtering Facepiece Respirators from China May Not Provide Adequate Respiratory Protection - Letter to Health Care Providers. U.S. Food and Drug Administration. <https://www.fda.gov/medical-devices/letters-health-care-providers/certain-filtering-facepiece-respirators-china-may-not-provide-adequate-respiratory-protection-letter> Accessed June 10, 2020.



11. Strategies to Optimize the Supply of PPE and Equipment. U.S. CDC, Guidance for Optimizing PPE. <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html>. Accessed July 8, 2020

## Section 5: Other Resources

- [CDC's Guidance on How to Protect Yourself and Others](#)
- [CDC's Healthcare Infection Prevention and Control FAQs for COVID-19](#)
- [CDC's Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings](#)
- [CDC's Framework for Healthcare Systems Providing Non-COVID-19 Clinical Care During the COVID-19 Pandemic](#)
- [Facemask Considerations for Healthcare Professionals in Schools, National Association of School Nurses](#)
- Perencevich EN, Diekema DJ, Edmond MB. Moving Personal Protective Equipment into the Community: Face Shields and Containment of COVID-19. *JAMA*. 2020;323(22):2252–2253. doi:10.1001/jama.2020.7477. Accessed May 22, 2020.

## Respirator Regulations

[OSHA 29 CFR 1910.134 Respiratory Protection](#)

## PPE Estimating Tools:

- CDC: [Personal Protective Equipment \(PPE\) Burn Rate Calculator](#)
- MA: [Health Supply/PPE Estimate spreadsheet form](#)
- TX: [A–F Estimator Tool Available](#)
- VT: [HUUUSD: Conyers & Wetzel](#) PPE Estimating Tool per grade, staff, & LEA [available upon request]

## State Level Resource Recommendations:

- State Agency that Regulates Respiratory Protection in the Work Place
- State Agency that Manages PPE Allocations to Local Education Agencies
- State Health Department Guidelines for PPE Use





## Training Resources

- *Training for School Nursing Personnel* can be found here free and self-paced:  
[COVID-19: Epidemiology, Modes of Transmission and Protecting Yourself with PPE](#)
- *Training for Assistive Personnel* who will be carrying out health tasks should be carried out under the guidance of the school nurse or other health care clinician. It will be important to practice several times using the supplies to be able to calmly respond when the need arises:  
[Using Personal Protective Equipment \(PPE\) CDC video and posters](#)

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