



Classification of North Carolina Issued Personal Protective Equipment*

This document offers a series of strategies or options to optimize supplies of personal protective equipment (PPE) in healthcare settings when there is limited supply. Because of a critical shortage of respiratory protection devices, the Centers for Disease Control and Prevention (CDC), the Food and Drug Administration (FDA), and the Occupational Safety and Health Administration (OSHA) have provided interim guidance to employers on the use of PPE.

PPE shortages are currently posing a tremendous challenge to the US healthcare system because of the COVID-19 pandemic. Healthcare facilities are having difficulty accessing the needed PPE and are having to identify alternate ways to provide patient care. [CDC's Strategies for Optimizing PPE](#) offer options for use when PPE supplies are stressed, running low, or absent.

All U.S. healthcare facilities should currently be implementing PPE contingency strategies:








- Maximize use of engineering controls, such as barriers and maintained ventilation systems, and administrative controls, such as altering work practices to minimize patient contacts.
- Cancel elective and non-urgent procedures/appointments.
- Reserve PPE for HCP and replace PPE normally used for source control with other barrier precautions such as tissues.
- Use re-usable PPE that can be reprocessed.
- Use PPE beyond the manufacturer-designated shelf life for training.
- Consider allowing HCP to extend use of respirators, facemasks, and eye protection, beyond a single patient contact.

Classification System for PPE

The classification system below is to assist in making decisions on sourcing, purchasing, prioritizing, and delivering PPE to both healthcare workers and non-healthcare public service agency workers that have requested protective equipment. The classifications are presented in order of preferred use by level of protection, with Tier I and Tier II PPE being specifically designed for medical use. Tier III and Tier IV PPE are ideal for use by non-healthcare public service workers or healthcare workers when Tier I and Tier II PPE are no longer available.

Healthcare workers should not use Tier II, III and IV PPE unless Tier I PPE is not available. As PPE becomes available, healthcare facilities should promptly resume standard practices.

Tier I: N-95 Respirators	Tier I: Additional respirators
<ul style="list-style-type: none"> All N95 respirators that are approved by the National Institute for Occupational Safety and Health (NIOSH). NIOSH will be somewhere on the respirator. A surgical N95 respirator is a NIOSH-approved N95 respirator that has also been cleared by the FDA as a surgical mask. NIOSH will be somewhere on the respirator. <div data-bbox="467 569 634 751" data-label="Image"> </div> <div data-bbox="451 758 646 793" data-label="Caption"> <p><i>Example of N95</i></p> </div>	<ul style="list-style-type: none"> Other NIOSH approved respirators are at least as protective as the N95. These include N99, N100, P95, P99, P100, R95, R99, and R100 <div data-bbox="992 380 1252 569" data-label="Image"> </div> <div data-bbox="1024 594 1219 630" data-label="Caption"> <p><i>Example of N99</i></p> </div>
Tier I: Surgical and procedural masks	Tier I: Other PPE
<ul style="list-style-type: none"> ASTM Level 1, 2, or 3 procedural and surgical masks <ul style="list-style-type: none"> A surgical mask is used inside the operating room and it also protects the healthcare worker from contaminated fluid or debris generated during the procedure. <div data-bbox="391 1125 613 1346" data-label="Image"> </div> <div data-bbox="347 1350 656 1386" data-label="Caption"> <p><i>Example of surgical mask</i></p> </div> <ul style="list-style-type: none"> A procedure mask is used for performing patient procedures and are used to protect both patients and staff from the transfer of respiratory secretions, fluids or other debris. <div data-bbox="402 1633 597 1791" data-label="Image"> </div> <div data-bbox="334 1822 669 1858" data-label="Caption"> <p><i>Example of procedure mask</i></p> </div>	<ul style="list-style-type: none"> FDA cleared Medical gloves- Nonsterile or sterile disposable patient examination gloves. <div data-bbox="1016 961 1222 1171" data-label="Image"> </div> <div data-bbox="967 1173 1276 1209" data-label="Caption"> <p><i>Example of medical glove</i></p> </div> <ul style="list-style-type: none"> Isolation and surgical gowns- Nonsterile, disposable patient isolation gowns are appropriate when caring for patients with suspected or confirmed COVID-19. <div data-bbox="1084 1440 1203 1644" data-label="Image"> </div> <div data-bbox="984 1646 1305 1682" data-label="Caption"> <p><i>Example of isolation gown</i></p> </div>

Tier II: Non NIOSH approved/FDA EUA	Tier II: Other PPE
<ul style="list-style-type: none"> • OSHA, FDA, and the CDC are allowing certain respirators from other countries to be used during COVID-19. They are acceptable in their country.  <p data-bbox="396 598 607 632"><i>Example of KN95</i></p> <ul style="list-style-type: none"> • Procedure mask with FDA EUA- masks that are manufactured using international standards or new manufacturers that meet ASTM Level I standards  <p data-bbox="350 976 651 1010"><i>Example procedure mask</i></p>	<ul style="list-style-type: none"> • Non medical gloves- those used for food service, embalming, cleaning, or other industrial-grade gloves.  <p data-bbox="943 569 1300 602"><i>Example of non-medical glove</i></p> <ul style="list-style-type: none"> • Coveralls-typically provide 360-degree protection.  <p data-bbox="1003 898 1242 932"><i>Example of coverall</i></p> <ul style="list-style-type: none"> • Nonsurgical isolation gowns with FDA EUA-nonsurgical isolation gowns from new manufacturers that meet ASTM standards.
<p>Tier II: Respirators with exhalation valves</p>	 <p data-bbox="966 1304 1279 1337"><i>Example of isolation gown</i></p>
<ul style="list-style-type: none"> • Respirators with exhalation valves- Respirators with exhalation valves should not be used in situations where a sterile field must be maintained. Respirators with exhalation valves protect the wearer from COVID-19, but may not prevent the virus spreading from the wearer to others and must be worn with a face mask as to not interfere w  <p data-bbox="191 1556 768 1589"><i>Example of a respirator with an exhalation valve</i></p>  <p data-bbox="228 1860 748 1927"><i>Example of respirator with exhalation valve covered by a procedure mask</i></p>	

Tier III: Utility Mask	Tier III: Other PPE
<ul style="list-style-type: none"> • Simple physical barrier for exams and visitations or for dry, short procedures that do not produce fluid, spray or aerosols. Also, dust masks that are sold at hardware stores. <div data-bbox="402 443 602 638" data-label="Image"> </div> <div data-bbox="362 646 643 678" data-label="Caption"> <p><i>Example of utility mask</i></p> </div>	<ul style="list-style-type: none"> • International gowns and coveralls: In times of shortages, healthcare facilities can use international gowns and coveralls that conform to international standards. <div data-bbox="1040 443 1203 653" data-label="Image"> </div> <div data-bbox="824 657 1419 688" data-label="Caption"> <p><i>Example of Coverall from an international vendor</i></p> </div>
Tier IV: Homemade masks	Tier IV: Other PPE
<ul style="list-style-type: none"> • For use as a last resort for healthcare providers. • Homemade masks are not considered PPE, since their capability to protect HCP is unknown. • Healthcare providers should wear face shield with homemade mask if facility is resorting to use. <div data-bbox="375 1073 630 1293" data-label="Image"> </div> <div data-bbox="334 1297 670 1329" data-label="Caption"> <p><i>Example of homemade mask</i></p> </div>	<ul style="list-style-type: none"> • In a situation of severely limited or no availability, the following PPE can be used: <ul style="list-style-type: none"> ○ Disposable laboratory coats ○ Reusable (washable) patient gowns ○ Reusable (washable) laboratory coats ○ Disposable aprons <div data-bbox="1094 1041 1187 1241" data-label="Image"> </div> <div data-bbox="987 1245 1305 1276" data-label="Caption"> <p><i>Example of disposal apron</i></p> </div>

Important Things to Know about Wearing a Mask:

When you wear your PPE, its surface becomes contaminated by particulate, which may include viruses and bacteria. PPE may also endure wear affecting their integrity due to handling, donning/doffing processes.

Wearers should be careful how they handle PPE after it has been worn and avoid touching the contaminated area. Continued strict adherence to hand hygiene practices, particularly after touching PPE, is critical.

**This document has been reviewed by North Carolina Department of Labor/ Occupational Safety and Health Division on August 18, 2020.*