

## MDMC Recommended PPE Conservation Strategies as of September 15th, 2020:

**Gloves:** Standard Operations.

**Isolation gowns:** Limited use, prioritization strategies and batched care recommended. See below.

**Isolation masks, N95s, goggles, face shields, CAPRs, PAPRs, Isolation Stethoscopes:** Reuse and/or extended use recommended. See below.

Standard doffing protocol in Appendix A.

### Isolation Stethoscope Reuse Protocol:

Isolation Stethoscopes		
Situation	Process	Additional Information
Reuse isolation stethoscope on multiple patients	<p>Stethoscope should be dedicated to one patient on contact precautions for use between multiple providers for duration of patient's stay</p> <ul style="list-style-type: none"> <li>Stethoscope should travel with patient upon transfer within facility</li> </ul> <p>When patient has been discharged or transferred from facility:</p> <ul style="list-style-type: none"> <li>Wear gloves to disassemble stethoscope</li> <li>Wipe each component with hospital-approved disinfectant wipe (Sani-Cloth PRIME wipes preferred, if available)</li> <li>Allow to air dry</li> <li>Reassemble components</li> <li>Dedicate to different patient on contact precautions</li> </ul> <p><b>OR</b></p> <p>Consider CSPD process for reprocessing</p>	<p>Stethoscope dedicated to one patient for duration of stay</p> <ul style="list-style-type: none"> <li>Discard if becomes damaged or unsuitable for use</li> </ul>

### Isolation Gown Limited Use Protocol:

Isolation Gowns		
Situation	Process	Additional Information
Contingency operations	Consider alternatives to isolation gowns such as non-sterile surgical gowns and/or aprons	Do not use isolation gowns to care for patients who are

<p>1) Consider alternatives to isolation gowns</p> <p>2) Use risk-based approach to prioritize use of isolation gowns</p> <p>3) Limit gown use for transmission-based precautions for patients with active MDRO infections and/or COVID-19</p> <p>4) Promote use of hand hygiene and glove changes</p> <p>5) Discontinue active surveillance</p> <p>6) Extend use of isolation gowns on designated COVID-19 units</p>	<p>Gowns should be prioritized for the following activities:</p> <ul style="list-style-type: none"> <li>○ During patient care where splashes and sprays are anticipated, including aerosol generating activities</li> <li>○ During high-contact patient care (e.g., bathing, showering, transferring, changing linens, assisting with toileting and underclothes changes, wound care, device care)</li> </ul> <p>Long-sleeved, fluid-resistant gowns should be prioritized for activities where splashes/sprays are likely:</p> <ul style="list-style-type: none"> <li>● During patient care where splashes and sprays are anticipated, including aerosol-generating procedures</li> <li>● During wound care, device care, bathing, showering</li> </ul> <p>If short-sleeved gowns or gown-alternatives must be worn during these activities, collaborate with Infection Prevention to develop appropriate doffing and hand hygiene protocols</p> <p>Limit use of isolation gowns to patients with active MDRO infections, C-DIFF (identified during this hospital admission and/or have open, draining wounds), COVID-19 and those on indefinite contact precautions for CP-CRE.</p> <p>Promote importance of hand hygiene and appropriate glove changes in accordance with hospital policy</p> <p>Discontinue active surveillance for MDROs such as MRSA and VRE in all areas except NICUs</p> <p>Extend use of isolation gowns on designated COVID-19 units:</p> <ul style="list-style-type: none"> <li>● Same gown should be worn from patient to patient on designated COVID-19 units</li> </ul>	<p>colonized without active infection</p> <p>Avoid using short-sleeve gowns or gown-alternatives for these activities, if possible</p>
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<p>7) Batch patient care activities</p>	<ul style="list-style-type: none"> <li>• Batch patient care activities for all patients where feasible:                             <ul style="list-style-type: none"> <li>○ Example: Conduct rounding and med passing for all patients before taking break or documenting at nurse’s station</li> </ul> </li> <li>• Discard gown:                             <ul style="list-style-type: none"> <li>○ After use</li> <li>○ If becomes visibly soiled</li> <li>○ If used on patient that has co-infectious diagnoses transmitted by contact (i.e., <i>C. diff</i>)</li> </ul> </li> </ul>	<p>Remove isolation gown and discard after use on patients co-infected with MDROs</p>
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**Isolation Mask Extended Use and Reuse Protocol:**

Isolation Masks		
Situation	Process	Additional Information
<p>1) Extend use of isolation masks where applicable</p>	<p><b>Process for Extending Use of Isolation Masks:</b></p> <p>For healthcare workers, an extended use of facemasks is the practice of wearing the same facemask for repeated close contact encounters with several different patients, without removing the isolation mask between patient encounters.</p> <ol style="list-style-type: none"> <li>1. Staff continue wearing same isolation mask between patients</li> <li>2. If COVID-19 ward staffing is in place, HCP to wear one isolation mask when on ward</li> <li>3. Utilize a full face shield to minimize risk of soiling mask.</li> </ol> <p>Reinforce the need to minimize unnecessary contact with the surface of the isolation mask, strict adherence to hand hygiene practices, and proper Personal Protective Equipment (PPE) donning and doffing technique.</p> <p>Perform hand hygiene with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the isolation mask (when necessary for comfort or to maintain fit).</p> <p>Discard isolation mask if mask is:</p> <ol style="list-style-type: none"> <li>a. Visibly soiled</li> <li>b. Moist or wet</li> </ol>	<p>Isolation masks should be worn by staff who are interacting with patients in patient care areas who are negative for COVID-19 or not a PUI; or any team member with significant public interaction.</p> <p>While at the nurses’ station or other areas where patient contact will not occur, staff should wear a face mask or cloth face covering, unless practicing social distancing (must be at least 6 feet apart).</p> <p>When entering the room of a patient with known or suspected COVID-19, HCW should wear an N-95 respirator. A facemask should be opted for only if a respirator is not available due to supply chain limitations.</p> <p>An N-95 respirator is required if performing an aerosol generating procedure or treatment on a patient with known or suspected COVID-19.</p>

		<p>Current extended use and re-use strategies must be continued to optimize PPE supply and availability.</p> <p>Do not pull isolation mask down around neck or place on top of head between patient encounters</p>
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<p>2) Reuse isolation masks where applicable</p>	<p>Discard any isolation mask that is obviously damaged or becomes hard to breathe through.</p> <p>PPE should be removed before leaving the floor/ward or when consecutive patient care activities have been completed. Face shield and goggles should be cleaned and stored for reuse</p> <p><b>Process for Reusing Isolation Masks:</b></p> <p>Reuse of isolation masks is the practice of using the same isolation mask by one HCP for multiple encounters with different patients.</p> <p>Employees should obtain a paper bag or breathable container and instructions for reuse with each isolation mask:</p> <ol style="list-style-type: none"> <li>1. Write first and last name on paper bag; write date of first use on bag</li> <li>2. Use isolation mask per extended use protocol detailed above</li> <li>3. After use, remove isolation mask per standard doffing sequence (attached), fold so outer surface is held inward and against itself, and place in pre-labeled bag/breathable container for reuse. Discard isolation mask if is:             <ol style="list-style-type: none"> <li>a. Visibly soiled</li> <li>b. Moist or wet</li> </ol> </li> <li>4. To reuse:             <ol style="list-style-type: none"> <li>a. Perform hand hygiene</li> <li>b. Retrieve isolation mask from bag/breathable container and put on</li> <li>c. Perform hand hygiene</li> <li>d. Finish donning PPE, as applicable, prior to entering patient room or care area</li> <li>e. Perform hand hygiene any time after isolation mask is touched</li> </ol> </li> </ol> <p>Reinforce the need for proper isolation mask donning techniques, including inspection of the device for physical damage (e.g., Are the straps stretched out so much that they no longer provide enough tension to hold in place?, Is the nosepiece broken?, etc).</p>	<p>Not all isolation masks can be reused:</p> <ul style="list-style-type: none"> <li>• Isolation masks that fasten to the provider via ties may not be able to be undone without tearing and should be considered only for extended use, rather than reuse</li> <li>• Isolation masks may be stored and reused until no longer suitable for use</li> </ul>
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	Pack or store isolation mask between uses so they do not become damaged or deformed.	
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**N95 Respirator Reuse and Extended Use Protocols:**

N95 Respirators		
Situation	Process	Additional Information
<p>1) Reuse N95 respirators where applicable</p> <p>(e.g. provider with occasional contact with COVID patients or other patients requiring N95s such as TB; provider performing occasional Aerosol Generating Procedures; used in presence of surgical smoke; provider administering hazardous drugs)</p>	<p><b>Process for Reusing N95 Respirators:</b></p> <ol style="list-style-type: none"> <li>1. Employees needing an N95 for their task(s) should obtain an appropriate respirator from their unit leader(s), along with paper bag/breathable container and instructions for reuse</li> <li>2. Write first and last name on paper bag / breathable container; write date of first use on bag / breathable container</li> <li>3. Use N95 per standard protocol, utilizing a full face shield to minimize risk of soiling mask.</li> <li>4. After use, remove N95 per standard doffing sequence (attached) and place in pre-labeled paper bag / breathable container for reuse.</li> </ol> <p>Discard N95 respirator if N95 is:</p> <ol style="list-style-type: none"> <li>a. Visibly soiled</li> <li>b. Moist or wet</li> <li>c. Used during aerosol-generating procedures, <u>unless</u> N95 was protected by a face shield*</li> </ol> <ol style="list-style-type: none"> <li>5. To reuse:                             <ol style="list-style-type: none"> <li>a. Perform hand hygiene</li> <li>b. Retrieve N95 from bag / breathable container and place on face, ensuring proper fit (seal-check)</li> <li>c. Perform hand hygiene</li> <li>d. Finish donning PPE, as applicable, prior to entering patient room or care area, utilizing a full face shield to minimize risk of soiling mask.</li> <li>e. Perform hand hygiene any time after N95 is touched</li> </ol> </li> </ol> <p>Reinforce the need for proper respirator donning techniques including inspection of the device for physical damage (e.g., Are the straps stretched out so much that they no longer provide enough tension for the respirator to</p>	<p>When entering the room of a patient with known or suspected COVID-19, HCW should wear an N-95 respirator. A facemask should be opted for only if a respirator is not available due to supply chain limitations.</p> <p>An N-95 respirator is required if performing an aerosol generating procedure or treatment on a patient with known or suspected COVID-19.</p> <p>Current extended use and re-use strategies must be continued to optimize PPE supply and availability.</p> <p>N95 respirators must only be used by a single wearer</p> <ul style="list-style-type: none"> <li>• Secondary exposures can occur from respirator reuse if respirators are shared among users and at least one of the users is infectious (symptomatic or asymptomatic).</li> </ul> <p>To prevent inadvertent sharing of respirators label paper bags or breathable container used for storing N95 respirators, or label the respirator itself (e.g., on the straps) between uses with a unique identifier (e.g., first name, last initial) to reduce accidental usage of another person’s respirator.</p>

	<p>seal to the face?, Is the nosepiece or other fit enhancements broken?, etc.).</p>	<p><i>*N95 use should not be extended by covering with an isolation mask at this time, as isolation masks are also in short supply. This recommendation may change.</i></p>
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<p>2) Suspend fit-testing requirements</p>	<p>Discard any respirator that is obviously damaged or becomes hard to breathe through.</p> <p>Pack or store respirators between uses so that they do not become damaged or deformed.</p> <p><b>N95 masks should not be used for fit testing until supply replenished. Users should perform seal check when donning respirator to ensure proper fit.</b></p>	
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<p>3) Extend use of N95 respirators where applicable</p> <p>(e.g. provider caring for multiple COVID pts. in an ICU setting; provider performing multiple aerosol generating procedures on multiple COVID pts. [ie RT on COVID ward])</p>	<p><b>Process for Extending Use of N95 Respirators:</b></p> <p>Extend the use of N95 respirators by wearing the same N95 for repeated close contact encounters with several different patients, without removing the respirator between patient encounters.</p> <ul style="list-style-type: none"> <li>• The respirator must maintain its fit and function.</li> <li>• Utilize a full face shield to minimize risk of soiling mask.</li> </ul> <p>Reinforce the need to minimize unnecessary contact with the respirator surface, strict adherence to hand hygiene practices, and proper Personal Protective Equipment (PPE) donning and doffing technique.</p> <p>Perform hand hygiene with soap and water or an alcohol-based hand sanitizer before and after touching or adjusting the respirator (when necessary for comfort or to maintain fit).</p> <p>Discard N95 respirator if N95 is:</p> <ol style="list-style-type: none"> <li>a. Visibly soiled</li> <li>b. Moist or wet</li> <li>c. Used during aerosol-generating procedures, <u>unless</u> N95 was protected by a face shield* </li></ol> <p>Discard any respirator that is obviously damaged, loses seal, or becomes hard to breathe through. If not discarded, store in a paper bag for reuse.</p> <p>PPE should be removed before leaving the floor/ward. Face shield and goggles should be cleaned and stored for reuse.</p>	<p>For extending use AND reusing, N95 respirators must only be used by a single wearer.</p> <p>Secondary exposures can occur from respirator reuse if respirators are shared among users and at least one of the users is infectious (Symptomatic or asymptomatic).</p> <p>To prevent inadvertent sharing of respirators, label paper bags or breathable container used for storing N95 respirators or label the respirator itself (e.g., on the straps) between uses with a unique identifier (e.g., first name, last initial) to reduce accidental usage of another person’s respirator.</p> <p><i>N95 use should not be extended by covering with an isolation mask at this time, as isolation masks in short supply. This recommendation may change.</i></p>
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**Face shields/Goggles/CAPR/PAPR Reuse Protocol:**

<b>Goggles</b>		
<b>Situation</b>	<b>Process</b>	<b>Additional Information</b>
<b>Goggles / safety glasses assigned to healthcare worker for multiple uses (preferred)</b>	<ul style="list-style-type: none"> <li>• Touch goggles with clean hands only</li> <li>• Observe goggles for visible soiling with blood / body fluids or hazardous drugs. If elastic portion of goggles is visibly soiled, move to safe location and discard per hospital policy. If healthcare worker believes there was an exposure during patient care activities, even if not visibly soiled, discard at point of use.</li> <li>• If visibly soiled, remove PPE per standard doffing sequence, clean hands and don clean gloves</li> <li>• Use an alcohol/quaternary ammonium (Sani-Cloth PRIME or similar) disinfectant wipe to clean of visible soil</li> <li>• Disinfect goggles after each patient encounter with alcohol/quaternary ammonium (Sani-Cloth PRIME or similar) disinfectant wipe.</li> <li>• Store cleanly, in a way that prevents contamination, until next use</li> </ul>	<ul style="list-style-type: none"> <li>• If healthcare worker touches goggles with dirty hands, goggles must be washed after use, immediately after leaving the patient’s room, prior to being used in another patient’s room.</li> <li>• Eye protection (face shield or goggles) should be worn by staff who are interacting with ALL patients in patient care areas, regardless of COVID-19 or PUI status; or any team member with significant public interaction.</li> </ul>
<b>Goggles shared between healthcare workers during shift</b>	<ul style="list-style-type: none"> <li>• Touch goggles with clean hands only</li> <li>• Observe goggles for visible soiling with blood / body fluids or hazardous drugs. If elastic portion of goggles is visibly soiled, move to safe location and discard per hospital policy.</li> <li>• If visibly soiled, remove PPE per standard doffing sequence, clean hands and don clean gloves</li> <li>• Use an alcohol/quaternary ammonium (Sani-Cloth PRIME or similar) disinfectant wipe to clean of visible soil</li> <li>• Disinfect goggles after each patient encounter with alcohol/quaternary ammonium (Sani-Cloth PRIME or similar) disinfectant wipe</li> <li>• Store cleanly, in a way that prevents contamination, until next use</li> </ul>	
<b>Face Shield</b>		
<b>Situation</b>	<b>Process</b>	<b>Additional Information</b>
<b>Face shield assigned to single healthcare worker</b>	After each patient encounter: <ol style="list-style-type: none"> <li>1. Don clean gloves</li> </ol>	<ul style="list-style-type: none"> <li>• If face shield is grossly soiled, one disinfectant</li> </ul>

<p><b>for multiple uses (preferred)</b></p>	<ol style="list-style-type: none"> <li>2. If non-wipeable surfaces of face shield (e.g., foam or elastic band) are visibly soiled, move to safe location and discard the face shield in the appropriate waste container, per hospital policy. Do not reuse face shield.</li> <li>3. Place the face shield on a non-porous surface.</li> <li>4. Wearing same clean gloves, obtain alcohol/quaternary ammonium (Sani-Cloth PRIME) disinfectant wipes.</li> <li>5. Using one wipe, carefully clean the wipeable surface on the inside of the face shield.</li> <li>6. Use wipe to disinfect the wipeable surface of outside of the face shield for the appropriate time (e.g., 1 minute) and allow to air dry.</li> <li>7. Use new wipe to disinfect the non-porous surface for the appropriate time.</li> <li>8. Finally, wipe the wipeable surfaces inside and outside of the face shield with clean water to remove residue, as necessary.</li> <li>9. Remove gloves and perform hand hygiene.</li> <li>10. Store clean and disinfected face shield in a secure location with a unique personal identifier (e.g., initials, or first name, last initial).</li> </ol>	<p>wipe may be used to clean and a second wipe to disinfect, per disinfectant manufacturer's instructions for use.</p> <ul style="list-style-type: none"> <li>• Allow all alcohol fumes to dissipate before re-wearing or storing the disinfected face shield.</li> <li>• When face shield becomes cloudy, and unable to use, it should be discarded into appropriate waste container per hospital policy.</li> <li>• Eye protection (face shield or goggles) should be worn by staff who are interacting with ALL patients in patient care areas, regardless of COVID-19 or PUI status; or any team member with significant public interaction.</li> </ul>
<p><b>Face shield shared between healthcare workers during shift</b></p>	<p>Face shield should not be shared between healthcare workers due to inability to clean and disinfect cloth components adequately.</p>	<ul style="list-style-type: none"> <li>• Do not share face shields between healthcare workers.</li> </ul>
<p><b>CAPR</b></p>		
<p><b>Situation</b></p>	<p><b>Process</b></p>	<p><b>Additional Information</b></p>
<p><b>CAPR assigned to single healthcare worker for multiple uses</b></p>	<p>Follow CAPR manufacturer's instructions for reuse.</p> <ul style="list-style-type: none"> <li>• Wipe down between patients using a hospital-approved disinfectant wipe.</li> <li>• Apply Sani-Cloth PRIME disinfectant to wipeable surfaces for appropriate time (e.g., 1 minute)</li> </ul>	<ul style="list-style-type: none"> <li>• CAPR approved for use instead of plastic face shield, where available</li> <li>• Do not reuse CAPR if grossly soiled on non-wipeable areas of the mask; if torn, damaged, or low visibility.</li> </ul>

<p><b>CAPR shared between healthcare workers during shift</b></p>	<p>Follow CAPR manufacturer’s instructions for reuse.</p> <ul style="list-style-type: none"> <li>• Wipe down between patients using a hospital-approved disinfectant wipe.</li> <li>• Apply Sani-Cloth PRIME disinfectant to wipeable surfaces for appropriate time (e.g., 1 minute)</li> </ul>	<ul style="list-style-type: none"> <li>☐ CAPR approved for use instead of plastic face shield, where available</li> <li>☐ Do not reuse CAPR if grossly soiled on non-wipeable areas of the mask; if torn, damaged, or low visibility.</li> </ul>
<p><b>PAPR</b></p>		
<p><b>Situation</b></p>	<p><b>Process</b></p>	<p><b>Additional Information</b></p>
<p><b>PAPR assigned to single healthcare worker for multiple uses</b></p> <p><i>or</i></p> <p><b>PAPR shared between healthcare workers during shift</b></p>	<p>Follow PAPR manufacturer’s instructions for PAPR hood reuse</p>	<ul style="list-style-type: none"> <li>• PAPR approved for use instead of plastic face shield, where available, outside of OR</li> <li>• Do no reuse PAPR hood if torn, damaged, or low visibility.</li> </ul>

## Appendix A: Standard Doffing Sequence

## Removing Personal Protective Equipment (PPE)

### ❖ Gloves

- ◆ Outside of gloves is contaminated!
- ◆ Grasp outside of glove with opposite gloved hand, peel off.
- ◆ Hold removed glove in gloved hand.
- ◆ Slide fingers of ungloved hand under remaining glove at wrist without touching outside of glove.
- ◆ Peel glove off over first glove.
- ◆ Discard gloves in waste container.
- ◆ If wearing gown and gloves – can remove together (see gown removal).



### ❖ Goggles or Face Shield

- ◆ Outside of goggles or face shield is contaminated!
- ◆ To remove, handle by head band or ear pieces.
- ◆ Clean according to facility guidelines, place in designated receptacle for reprocessing or discard in waste container.



### ❖ Gown

- ◆ Gown front and sleeves are contaminated!
- ◆ Use clean hands to unfasten back ties (if needed).
- ◆ Pull away from neck and shoulders; break neck/back ties.
- ◆ Turn gown inside out. Can remove gloves with gown.
- ◆ Fold or roll into a bundle and discard.



### ❖ Isolation Mask, N95 Respirator/PAPR\*/CAPR\*\*

- ◆ Front of mask/respirator is contaminated - **do not touch!**
- ◆ Grasp bottom, then ties or elastics and remove.



### ❖ Hand Hygiene

- ◆ Perform hand hygiene after removal of PPE.

\*PAPR – Powered Air Purifying Respirator  
 \*\*CAPR – Controlled Air Purifying Respirator