Summary of Changes in this Version

- Removed references to cloth face coverings for colleagues (throughout document)
- Removed references to PPE Coaches (throughout document)
- Added information on the Occupational Safety and Health Administration (OSHA) COVID-19 Emergency Temporary Standard (ETS) (page 6)
- Moved some respirator information from OSHA section to Respiratory Protection section
- Removed conservation strategies for crisis mode
- Added requirements of the Mini Respiratory Protection Program section of the ETS (page 7)
- Added scenarios to describe when to use each type of PPE under Standard Precautions (page 9)
- PPE requirements are the same regardless of the vaccine status of the health care professional (page 10)
- Patients may be considered a PUI regardless of their vaccine status (page 10)
- Health Care Personnel must use a procedure mask or higher for source control (page 11). Cloth face coverings are no longer permitted in facilities where care is delivered.
- Updated PPE Selection Guide (page 12). Removed cloth face covering option for all colleagues in health care settings. PPE requirements for eye and respiratory protection now change based on local community transmission rates.
- Added instructions to return to conventional PPE use strategy once supplies and availability return to normal (pages 16, 17 and 18).
- Removed Gown Optimization strategies from page 18 and sample strategies from the appendix. Colleagues must return to conventional gown use.
- Removed OSHA contingency fit testing practices for PAPRs (page 22)
- Surgical masks must be reserved for operative procedures or other situations where a splash or spray is anticipated; however, surgical masks may be disposed of after each case (page 24)
- Removed contingency use from N95 Work Practices section (page 25)
- Added OSHA definition of “facemask” to Glossary (page 39).
- Updated list of examples of Aerosol Generating Procedures (AGPs) to include all procedures called out in the OSHA Emergency Temporary Standard (ETS). All other examples have been reviewed and confirmed (page 43).
- The FDA has recommended transitioning away from Crisis Conservation strategies for PPE.
  - Removed the following references:
    - PPE From Other Countries (formerly page 47)
    - Use of expired N95s (throughout document)
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OSHA Compliance

The Occupational Safety and Health Administration (OSHA)

OSHA has primary responsibility for ensuring the safety and health of the workforce by setting and enforcing standards and by providing training, outreach, education and assistance. Every effort is made to ensure that we are keeping our colleagues safe within our ministries. On June 21, 2021 the Federal Register published a new standard from OSHA, the COVID-19 Emergency Temporary Standard (ETS). The ETS became effective July 6, 2021 (with exceptions to ventilation, training, and physical barriers, which have an effective date of July 21, 2021).

The purpose of the ETS is to protect healthcare and healthcare support service workers from occupational exposure to COVID–19 in settings where people with COVID–19 are reasonably expected to be present. The ETS requires that covered employers implement protocols to reduce transmission of COVID–19; some of the protocols are contained in this PPE Guidebook (PPE (facemasks, respirators, gowns, gloves, eye protection, and face shields), Standard and Transmission-Based Precautions, controls for aerosol-generating procedures, ventilation, etc.)

PPE Purchased by Independent Providers

Independent providers will abide by MercyOne guidance regarding procurement, maintenance and use of PPE.

PPE Purchased by Employed Colleagues

For employed colleagues, MercyOne procures PPE and related accessories (i.e. HEPA filters, belts or hoods needed for some models of PAPRs) that adhere to strict quality and efficacy standards on behalf of our employees. Colleagues who wish to purchase their own PPE must adhere to the following:

Respirators:

- **Respirator Required for Job Function**- Colleagues may provide their own respirator under two circumstances when a respirator is required to perform a job function per OSHA’s non-COVID-19 full Respiratory Protection Standard (1910.134). NOTE: these circumstances do not apply to any other types of PPE (see below).
  - Circumstance 1: ALL OF THE FOLLOWING APPLY:
    - Respirator use is **not required** by MercyOne for that colleague or for that colleague’s job tasks AND
    - MercyOne agrees to permit voluntary use AND
    - MercyOne has confirmed the colleague is medically able to use the respirator (not required for filtering facepiece/N95) AND
    - MercyOne has determined the respirator being used by the colleague would not in itself create a hazard AND
    - MercyOne has determined the respirator is cleaned, stored, and maintained by colleague so it does not present a health hazard to the wearer (not required for filtering facepiece/N95)
  - Circumstance 2: ALL OF THE FOLLOWING APPLY:
    - Respirator use is **required** by MercyOne for that colleague or for that colleague’s job tasks AND MercyOne does not have a respirator to provide to the colleague due to supply shortage AND
    - The colleague has their own respirator of the same, or higher, protection type or grade AND
    - MercyOne has determined the respirator being used is of an equivalent or higher protection level as the respirator that is required by MercyOne AND
    - The colleague passes a fit test for the respirator the colleague is supplying AND
    - MercyOne has determined and ensured that the colleague -provided respirator will be cleaned, stored, and maintained in the same manner required for a mandatory use respirator under the local ministry’s Respiratory Protection Plan (RRP) as defined by either the federal or state
OSHA Respiratory Protection Standard AND

- The local ministry's RRP is updated for the use of the colleague-provided respirator if it is a different type or grade than already in the plan

**Respirator Not Required for Job Function** – Colleagues may provide their own respirator instead of wearing a facemask where a facemask is required by a ministry per the Mini Respiratory Protection Section of OSHA’s COVID-19 ETS. The following process must be followed by the colleague prior to using their own personally owned respirator in place of a facemask:

- Process and Checklist for Personally Owned Respirators under the mini Respiratory Protection Program
  1. The colleague will provide the respirator for inspection to the ministry Program Administrator (PA) or designee that oversees the Respiratory Protection Program under OSHA’s Respiratory Protection Standard (1910.134).
  2. The PA or designee will assure the respirator meets the following criteria:
     a. Approved by CDC’s National Institute for Occupational Safety and Health (NIOSH)
     b. This site provides a listing of NIOSH-approved particulate filtering facepiece respirators: Approved Particulate Filtering Facepiece Respirators | NPPTL | NIOSH | CDC
        i. If the personally owned respirator is not approved by NIOSH it is not permitted for use in the ministry as the FDA no longer authorizes use of non-NIOSH approved respirators.
     c. The personally owned respirator should not have an exhalation valve;
        i. If it does have an exhalation valve exterior surface of this valve needs to be covered with a disposable facemask to provide source control for the wearer;
        ii. There are newer models of respirators, including elastomeric respirators, that are manufactured without an exhalation valve or have a built-in filter media. A facemask would not be needed for these types of respirators
     d. Respirators certified by agencies in other countries are not permitted.
     e. For powered air purifying respirators (PAPRs):
        i. Is the colleague able to use the assembly outlined in the manufacturer’s instructions for use?
        ii. Does the colleague have access to replacement parts from the PAPR manufacturer?
        iii. Is the colleague able to clean the PAPR according to the manufacturer’s instructions?
     f. For elastomeric respirators;
        i. Is the colleague able to use the assembly outlined in the manufacturer’s instructions for use?
        ii. Does the colleague have access to replacement parts from the elastomeric manufacturer?
        iii. Is the colleague able to clean the elastomeric respirator according to the manufacturer’s instructions?
        iv. Is the colleague planning to use the elastomeric respirator in situations when a sterile field must be maintained, such as during an invasive procedure in a surgical or procedural setting? Is so the valve needs to be covered with a facemask because the exhalation valve allows unfiltered air exhaled by the wearer, potentially contaminated with microbes, to escape and possibly contaminate the sterile field.
  3. If the personally owned respirator meets criteria above, the ministry’s PA or designee will assure:
     a. The colleague understands the need to read and follow manufacturer instructions for use, maintenance, cleaning and care and any warnings on their respirator’s limitations.
b. Assure only the colleague uses their respirator and not permit others to do so.
c. Their respirator under the mini RPP is not to be used for situations in which the ministry requires use of a respirator, e.g. to care for a patient with COVI-19.
d. To perform a user seal check prior to each use of their respirator.
e. The colleague is provided the notice in Appendix by of Trinity Health’s Mini RPP that addresses protection that respirators offer, importance of following the manufacturer’s instructions, etc.

Eye Protection
- If a colleague wears prescription lenses and their work involves potential eye hazard, the colleague must wear eye protection that either a) incorporates the prescription in its design or b) wear eye protection that can be worn over the prescription glasses without disturbing the proper position of the prescription lenses or the protective lenses.
- MercyOne will not pay for non-specialty prescription safety eyewear when that eyewear can also be worn when not at work. Eye protection is available that fits securely over prescription eyewear, and MercyOne will provide eye protection to wear over prescription eyewear.
- All eye protection must adhere to the guidelines established in the Eye Protection section below.
- All eye protection for care of PUIs or COVID-19+ patients must be obtained from the formulary of approved PPE products available from the Trinity Health or CommonSpirit Distribution Centers (DISC). Questions about specific makes and models of eye protection and other PPE should be referred to the ministry’s Supply Chain team.

All Other PPE:
- MercyOne does not permit colleagues to voluntarily bring in their own PPE unless MercyOne is experiencing a critical supply shortage in that type of PPE.
- MercyOne does not reimburse a colleague who chooses to provide their own PPE, including accessories (i.e., HEPA filters, belts or hoods needed for some models of PAPRs), unless approved in advance and only under those specific circumstances as required by OSHA.
- PPE and related accessories must meet requirements for protection and be maintained and used according to MercyOne Policy.

PPE and related accessories will be inspected by designated authorized local personnel to ensure PPE meets all applicable standards for the colleague’s work area. Colleagues must wear ministry-provided, medical grade face masks as described in the PPE Selection Guide below.

- Cloth head or face coverings are not PPE that should be worn when caring for COVID-19 or PUI patients. Such coverings may be furnished by the colleague for use outside of patient care settings. OSHA has issued the following brief in support of this.

CDC Recommendations

Universal Source Control:
- To address asymptomatic and pre-symptomatic transmission, everyone entering a healthcare facility (e.g., healthcare personnel, patients, visitors), regardless of symptoms are to wear a mask or face covering as described:
  - Health Care Personnel (HCP) are to wear a cloth face covering, a procedural mask or a respirator at all times (except while eating and drinking or if unable to tolerate a mask – see guidance on this on COVID-19 web site) while they are in the healthcare facility, including in breakrooms or other spaces where they might encounter co-workers. If supply of disposable, medical grade masks are limited, provide these to personnel that provide direct patient care.
  - Some types of respiratory protection, e.g., half mask elastomeric respirators, some models of N95 filtering facepiece respirators, and some models of powered air-purifying respirator (PAPR), include a valve to release exhaled air to improve comfort for the colleague wearing these types of devices. Other models of PAPRs also may allow unfiltered air exhaled by the wearer to escape if wearing one with a loose-fitting hood.
  - If a colleague is wearing a respirator with an exhalation valve, including tight fitting...
PAPRs, they will need to also wear a procedure mask over exterior side of the exhalation valve to provide source control.

- For a loose-fitting PAPR (a hood or helmet is designed to form only a partial seal with the wearer’s face or hoods that seal loosely around the wearer’s neck or shoulders) the colleague needs to wear a procedure mask under the PAPR to provide source control.

- See Source Control in PAPRs, CAPRs and Other Respirators with Unfiltered Exhalation for guidance.

- Personnel that do not provide direct patient care may use non-traditional, cloth face covering or other reusable mask.

- HCP are to remove their respirator or facemask, perform hand hygiene, and put on their cloth face covering when leaving the facility at the end of their shift.

- As indicated in prior guidance, non-traditional cloth face coverings are not considered PPE and are not to be used by healthcare personnel for work activities in which PPE is needed, e.g. aseptic procedures, risk of splashes to face, etc.

- Patients and visitors should, ideally, wear their own cloth face covering (if tolerated) upon arrival to and throughout their stay in the facility. If they do not have a face covering, they will be offered a facemask or cloth face covering, as supplies allow. Patients may remove their mask or cloth face covering when in their rooms but should put it back on, if able, when around others (e.g., when staff or visitors enter their room) or leaving their room.

- Masks or cloth face coverings should not be placed on young children under age 2, anyone who has trouble breathing, or anyone who is unconscious, incapacitated or otherwise unable to remove the mask without assistance.

### Standard Precautions

The CDC defines **Standard Precautions** as the basic practices that apply to all patient care, regardless of the patient’s suspected or confirmed infectious state, and apply to all settings where care is delivered. These practices protect healthcare personnel and prevent healthcare personnel from transmitting infections to other patients or the environment.

- **Elements and CDC Recommendations for PPE for Standard Precautions:**
  - **Mask and Eye protection (glasses, goggles or face shield):**
    - Use during patient care activities likely to generate splashes or sprays of blood, body fluids, secretions, or excretions. Eye protection must be appropriate to the anticipated splash or spray risk.
    - **NOTE:** Personal eyeglasses or contact lenses are not considered eye protection.
    - Colleagues may select from face shields, goggles, safety type glasses or other eyewear that provides protection to front/sides of face, as well as procedural masks with integrated eye shields. See Eye Protection: Selection Guidance, below.
  - **Gloves:**
    - Use when touching blood, body fluids, secretions, excretions, contaminated items, for touching mucus membranes and nonintact skin
  - **Gown**
    - Use during procedures and patient care activities when contact of clothing/ exposed skin with blood/body fluids, secretions, or excretions is anticipated

### Transmission-Based Precautions

**Transmission-Based Precautions** (also called Isolation Precautions) vary by diagnosis. These practices are designed to apply to settings where care is delivered for specific types of infectious disease. **Droplet + Contact precautions – apply to those with COVID-19** - are examples of transmission-based precautions. See the CDC link for additional details. The CDC recently published an update indicating that SARS-CoV-2 can be transmitted through the air in certain conditions (i.e. enclosed spaces with inadequate ventilation). Available data indicate that it is much more common for SARS-CoV-2 to spread through close contact than through airborne transmission. CDC has not indicated additional airborne precautions for COVID-19, stating: “Existing interventions to prevent the spread of SARS-CoV-2 appear sufficient to address transmission both through close contact and under the special circumstances favorable to potential airborne transmission. These interventions include physical distancing, use of masks in the community, hand hygiene, and surface cleaning and disinfection. Ventilation and avoidance of crowded indoor spaces
are especially relevant for enclosed spaces, where circumstances can increase the concentration of suspended small droplets and particles carrying infectious virus. At this time, there is no indication of a general community need to use special engineering controls, such as those required to protect against airborne transmission of infections, like measles or tuberculosis, in the healthcare setting."

- See the PPE Selection Guide below for guidance on selecting the appropriate PPE for an activity.

**Community Transmission Rates**

Community transmission refers to the prevalence of COVID-19 in the community. Refer to the COVID-19 Safety Coordinator, who will work with local COVID-19 Incident Command Teams to determine which transmission rate applies. Definitions below are from CDC.

- **Low community transmission** is defined as >0 to 10 new cases per 100,000 in county population over the past two weeks.
- **Moderate community transmission** is defined as >10 to 50 new cases per 100,000 in county population over the past two weeks.
- **Moderately high community transmission** is defined as >50 to 100 new cases per 100,000 in county population over the past two weeks.
- **High community transmission** is defined as more than 100 new cases per 100,000 in total county population over the past two weeks.

Note: Changes in use of PPE (i.e., return to more conventional use under Standard and Transmission-based precautions) when the ministry reaches zero to low threshold above must be approved by the ministry’s COVID-19 Safety Coordinator.

As of this publication, nearly all MercyOne facilities are experiencing moderate to high community transmission. Safety of our colleagues is paramount; we have updated guidelines for all facilities to align with CDC guidance for areas of moderate to high community transmission.

With these measures in place, we acknowledge that PPE usage will accelerate rapidly. Conservation and optimization strategies described throughout this book must be adhered to in order to maintain our PPE supplies through the pandemic.

**Precautions for patients with suspected or confirmed COVID-19**

CDC updated recommendations require the use of Standard Precautions and appropriate Transmission-Based Precautions when caring for person under investigation (PUI) and confirmed COVID-19, regardless of whether the patient or the colleague has been vaccinated against COVID-19. Although Droplet + Contact precautions are to be ordered for the patient, healthcare personnel must wear PPE as provided in PPE Selection Guide. See also Infection Prevention and Control (IPC) Overview for COVID-19 in Healthcare Settings for more details on route of transmission for SARS-CoV-2.

**Precautions for patients who are not suspected or confirmed COVID-19+**

Health care personnel (includes all colleagues and clinicians) [HCP] working in facilities located in areas with moderate to high community transmission [currently applies to all ministries based on Epidemiology Section COVID-19 dashboard] are more likely to encounter patients with SARS-CoV-2 infection that are asymptomatic or pre-symptomatic.

If COVID-19 is not suspected in a patient presenting for care (e.g., recent available test for SARS-CoV-2 is negative and based on assessment of symptoms and exposure history), HCP are to follow Standard Precautions (and Transmission-Based Precautions if required based on the suspected diagnosis). Patients may be considered a PUI regardless of their COVID-19 vaccine status. They must also:

- Add eye protection:
  - Wear eye protection in addition to a procedural mask to ensure the eyes, nose, and mouth are all protected from possible exposure to respiratory secretions during direct encounters with all patients.
Note; for some procedures, e.g. microvascular repair during an operative procedure, where the eye protection or face shield interferes with the ability to safely visualize the site of the procedure, use existing devices or eyewear that is part of the instruments and equipment needed for safe and effective completion of the procedure.

• Expanded use of N95 or equivalent respirator for Select Procedures – Any Patient:
  o Wear a N95 respirator or equivalent respirator, instead of a procedural mask, for select procedures with any patient.
  ▪ Aerosol generating procedures (see PPE Selection Guide, below) and
  ▪ Operative or invasive procedures that might pose higher risk for transmission if the patient has COVID-19 (e.g., that generate potentially infectious aerosols or involving anatomic regions where viral loads might be higher, such as the nose and throat, oropharynx, respiratory tract) (refer to Operative & Other Invasive Procedures Guidance for details)
    o When wearing an N95 respirator, protect eyes and the exterior surface of the N95 respirator, especially during Aerosol Generating Procedures (AGPs), with a face shield. If face shield is not available – wear appropriate eye protection.
    o Do not wear make-up below the eyes as this interferes with our ability to conserve N95 respirators.

HCP working in areas with low to no community transmission are to continue to adhere to Standard and Transmission-Based Precautions, including use of eye protection and appropriate respiratory protection as defined in the facility's Respiratory Protection program, e.g. use of N95 respirator for care of a patient with suspect or confirmed active pulmonary TB disease.

• NOTE: Universal use of a procedural mask for colleagues and face covering for patients and visitors remains in effect even if there are no cases in the community. This strategy continues to be required based on CDC recommendations.

Summary of PPE Conservation Strategies
The safety of our caregivers and patients is our highest priority. We have made the decision to move to extended use and reuse of existing personal protective equipment with the goal of protecting every caregiver, as they protect our patients.

This approach continues to be needed as the availability of supplies remains variable and unanticipated disruptions continue to occur. It is important conservation remain in place to optimize inventory of PPE that is available to respond to possible surges of cases of COVID-19. HCP that use PPE are the most important partner in this conservation to support all of our communities during the COVID-19 outbreak.

• No visitors allowed for PUI or COVID-19 (exceptions on case-by-case basis, e.g., for end of life situation). See the COVID-19 Visitor Restriction Guidelines.
• Essential personnel only in any care setting that requires PPE
• Maintain 6-foot distance from PUI or COVID-19 when possible, avoid contact with items in patient room. For example, if patient only has a question – enter just inside the isolation room door and answer or identify if more assistance is needed. If so and direct contact is required – don PPE.
• Use virtual methods for patient contact (e.g. remote communication via mobile phone), and batching visits into the room
• Limit number of direct care providers needing to enter room of a PUI or COVID-19.
  o Direct care team will provide support services like daily cleaning and disinfection of isolation room, waste removal and deliver food trays.
  o EVS will provide discharge/transfer (terminal) cleaning of the room after the patient has been discharged.
  o Observe and adhere to the required number of air changes, if an aerosol-generating procedure was performed prior to discharge.
  o If the room must be cleaned before the required number of air changes can occur, EVS must wear the same PPE as outlined for AGPs in the Patient Care or Procedure PPE Selection table.
  o Refer to the Room Cleaning Decision Matrix for guidance on determining when EVS can resume
daily cleans.
PPE Selection Guide

Colleagues from the following National Health Ministries or Physician Offices are to follow the guidance linked below:

- Safety Expectations and Guidelines for Colleagues Working in Non-Patient Care Office Settings
- Program of All-Inclusive Care of the Elderly (PACE)
- Trinity Health at Home (THAH)
- Trinity Health Senior Communities (THSC)
- COVID-Free Clinics
- Non-COVID-Free Clinics

### PPE Selection Guide by Patient Status and Situation

*Health Care Providers must follow guidance below in addition to Contact + Droplet Precautions for all COVID-19+ patients and PUIs*

#### Patient Status

<table>
<thead>
<tr>
<th>Areas or Procedures with high-risk of exposure to COVID-19</th>
<th>Situation</th>
<th>PPE Selected</th>
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</thead>
<tbody>
<tr>
<td>Area with high volume of PUIs or COVID-19+ (ex. Emergency Department, designated testing areas)</td>
<td>Specimen collection from the upper respiratory tract (ex. NP Swab)</td>
<td>Frequent Hand Hygiene, Gloves, Isolation Gown, Procedure Mask, Face Shield (required with N95), PAPR (eye protection attached), Respirator (N95 w/face shield OR elastomeric w/eye protection)</td>
</tr>
</tbody>
</table>

#### COVID-19+, PUI or Patient who Refuses Testing

*Any patient-facing encounter (includes all ancillary services i.e. EVS, PT)*

<table>
<thead>
<tr>
<th>Areas or Procedures with high-risk of exposure to COVID-19</th>
<th>Situation</th>
<th>PPE Selected</th>
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</thead>
<tbody>
<tr>
<td>Procedures with high risk of COVID-19 Transmission:</td>
<td></td>
<td>Frequent Hand Hygiene, Gloves, Isolation Gown, Procedure Mask, Face Shield (required with N95), PAPR (eye protection attached), Respirator (N95 w/face shield OR elastomeric w/eye protection)</td>
</tr>
</tbody>
</table>

#### All Other Patients

<table>
<thead>
<tr>
<th>Areas or Procedures with minimal risk of exposure to COVID-19</th>
<th>Situation</th>
<th>PPE Selected</th>
</tr>
</thead>
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<tr>
<td>Triage</td>
<td>Lab work - blood draws</td>
<td>Frequent Hand Hygiene, Gloves, Procedure Mask, Eye Protection</td>
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<td></td>
<td>Delivering &amp; picking up food trays</td>
<td>FANS colleagues do not enter COVID-19+</td>
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<tr>
<td></td>
<td>Transport</td>
<td>Frequent Hand Hygiene, Procedure Mask, Eye Protection</td>
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<td></td>
<td>Walking through hallways</td>
<td>Frequent Hand Hygiene, Procedure Mask, Patient Facing, Cloth Face Covering</td>
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<td></td>
<td>Non-Patient-facing tasks in a shared space</td>
<td>Frequent Hand Hygiene, Cloth Face Covering</td>
</tr>
</tbody>
</table>

*Registration colleagues are not to enter COVID-19+ or PUI rooms, or any patient room during an AGP.

**Eye protection required in the absence of physical barrier between the colleague and the patient/visitor, or during any physical contact with the patient/visitor**
Note: under rare and extraordinary circumstances, there may be emergent/urgent situations in which donning of all PPE may delay prompt response to assure safety of patients (see examples below). For these circumstances, the colleague’s professional judgment and assessment can be used to respond to the patient’s emergency need. In these circumstances the following elements of PPE must still be worn when responding to the patient who is in isolation because they are a PUI or have COVID-19:

- Respiratory Protection as described above
- Eye Protection as described above
- Gloves

Examples of these circumstances might be:

- Colleague observes a patient in acute respiratory/cardiac distress and needs to administer immediate, life-saving care while activating code activation & response system
- Colleague observes a patient close to or in the act of falling and at risk of injury. Patient Safety Attendants (PSAs) are to wear PPE appropriate for the patient diagnosis at all times while monitoring patients.

See also related OSHA guidelines for these rare and extraordinary instances. Ministry policy should be followed for reporting these instances.

Donning and Doffing PPE
Be sure to don and doff your PPE in the correct order.
The 5 steps to Don (put on) Personal protective equipment (PPE)

1. **Hand hygiene**
   - Clean all surfaces of hands and wrists

2. **Gown**
   - Cover torso and wrap around back, fasten in back of neck and waist

3. **Surgical/procedure mask**
   - Secure ties at middle of head and neck, fit nose band to your nose and pull bottom down to completely cover chin

4. **Eye protection**
   - Place goggles or face shield over face and eyes and adjust to fit

5. **Gloves**
   - Extend to cover wrist of gown

Note: when donning a mask or respirator that is being re-used, you must perform hand hygiene any time you touch the outer surface of the mask or respirator.
Note: when doffing a mask or respirator that is being re-used, you must perform hand hygiene any time you touch the outer surface of the mask or respirator.
# Gloves

<table>
<thead>
<tr>
<th>Description</th>
<th>Vinyl</th>
<th>Nitrile</th>
</tr>
</thead>
<tbody>
<tr>
<td>They can be used for short-term clinical applications with low risk of exposure to potentially infectious materials. In times of crisis shortage, it is better to use vinyl gloves than no gloves at all. Vinyl gloves provide protection from contact with liquids and solids that are non-corrosive.</td>
<td>These gloves are the best choice when it comes to resistance to punctures or infectious materials. They provide better protection against potentially infectious materials as well as protection from chemotherapy drugs and lab chemicals when compared to vinyl gloves.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Made From</th>
<th>Polyvinyl chloride (PVC).</th>
<th>Synthetic Rubber</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Approved Use Cases (list is not all-inclusive)</th>
<th>Non-patient care areas:</th>
<th>Direct patient care areas:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Biomed/Clinical Engineering</td>
<td>• Emergency Department</td>
<td>• Emergency Department</td>
</tr>
<tr>
<td>• Delivery of Food/Nutrition trays/supplements</td>
<td>• Environmental Services</td>
<td>• Environmental Services</td>
</tr>
<tr>
<td>• Home Health/Clinics if working with patients where there is no anticipated contact with blood/body fluids and low risk of puncture (i.e., taking a blood pressure or temperature)</td>
<td>• ICU/CCU</td>
<td>• ICU/CCU</td>
</tr>
<tr>
<td>• Facilities (Vinyl gloves are NOT APPROPRIATE for use with corrosive chemicals, even in crisis capacity.)</td>
<td>• Home Health/Clinics if working with patients where there is anticipated contact with blood/body fluids or risk of puncture</td>
<td></td>
</tr>
<tr>
<td>• Non-invasive imaging/radiology procedures</td>
<td>• Lab</td>
<td>• Lab</td>
</tr>
<tr>
<td>• Patient registration</td>
<td>• Laundry</td>
<td>• Laundry</td>
</tr>
<tr>
<td>• Patient Temperature screening stations</td>
<td>• Med/Surg</td>
<td>• Med/Surg</td>
</tr>
<tr>
<td>• Transportation</td>
<td>• OB/Gyn</td>
<td>• OB/Gyn</td>
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<tr>
<td></td>
<td>• Oncology</td>
<td>• Oncology</td>
</tr>
<tr>
<td></td>
<td>• Orthopedics</td>
<td>• Orthopedics</td>
</tr>
<tr>
<td></td>
<td>• Security</td>
<td>• Security</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>NOT approved for</th>
<th>Chemotherapy</th>
<th>Corrosive chemicals</th>
</tr>
</thead>
</table>

| How to Sanitize | • Isopropyl alcohol-based hand sanitizers are acceptable to use on vinyl gloves |
|-----------------|• If using ethanol-based hand sanitizer, change gloves every hour |
|                 |• Disposable medical gloves can be disinfected for up to six (6) applications of ABHR or until the gloves become otherwise contaminated or ineffective. |
|                 |• If using ethanol-based hand sanitizer, change gloves every hour |
|                 |• Disposable medical gloves can be disinfected for up to six (6) applications of ABHR or until the gloves become otherwise contaminated or ineffective. |
Glove Optimization
Surge capacity refers to the ability to manage a sudden, unexpected increase in patient volume that would otherwise severely challenge or exceed the present capacity of a facility. The following contingency and crisis strategies are based upon these assumptions:

- Facilities understand their current glove inventory and supply chain.
- Facilities understand their glove utilization rate.
- Facilities are in communication with local healthcare coalitions, federal, state, and local public health partners (e.g., public health emergency preparedness and response staff) regarding identification of additional supplies.
- Facilities have provided Health Care Professionals with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care.
- Facilities have already implemented other control measures such as:
  - Reducing the number of patients going to the hospital or outpatient settings
  - Use physical barriers and other engineering controls
  - Excluding HCP not directly involved in patient care
  - Reducing face-to-face HCP encounters with patients
  - Excluding visitors to patients with confirmed or suspected COVID-19 (except in Compassionate Care situations as outlined in the COVID-19 Visitor Restrictions guide)
  - Cohorting patients and HCP
  - Maximizing use of telemedicine

Once availability of gloves returns to normal, ministries must promptly resume conventional practices. Determining the appropriate time to return to conventional strategies must include the following considerations:

- The anticipated number of patients for whom gloves should be worn by HCP providing their care
- The number of days’ supply of gloves currently remaining at the ministry
- Whether the facility is receiving regular resupply with its full allotment

Surge Capacity Strata for Prioritizing Conservation Measures
Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve glove supplies along the continuum of care.

- **Conventional Capacity**: measures consist of providing patient care without any change in contemporary daily practices. This occurs under normal conditions. NOTE: CDC does not recommend double gloves when providing care to suspected or confirmed COVID-19 patients.
  - Continue use of approved disposable medical gloves in accordance with standard and transmission-based precautions in healthcare settings and when indicated for other exposures such as handling cleaning chemicals.
  - Reinforce indications and recommended practices for non-sterile disposable glove use.
  - Prioritize sterile gloves for surgical and other sterile procedures.
  - Medical gloves for handling chemotherapy agents (chemotherapy gloves) should be prioritized for HCP handling chemotherapy and other hazardous drugs.
  - Remind HCP about indications for when gloves are needed, as well as common care situations when gloves may not be needed.
    - Do not use gloves unless indicated by Standard or Transmission-Based Precautions for the situation (i.e., gloves are not indicated for taking blood pressure, passing meds, etc.). **Follow all hand hygiene guidance.**

- **Contingency Capacity**: measures may change daily standard practices but may not have any significant impact on the care delivered to the patient or the safety of healthcare personnel (HCP). These practices may be used temporarily during periods of expected glove shortages. **Ministries must return to conventional practices as soon as supplies and availability return to normal.**
  - Use of gloves past their manufacturer-designated shelf life for training activities
    - See **CDC Table of Gloves Conforming to Standards Used in United States and Other**
Countries.

- Consider using gloves past their manufacturer-designated shelf life (if a shelf life is designated) for situations where HCP are not exposed to pathogens, such as during training activities.
- Consider not using gloves unless absolutely necessary (i.e. when taking blood pressure, passing meds, etc.). **Follow all hand hygiene guidance.**

- **Crisis Capacity**: strategies that are not commensurate with standard U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of glove shortages. **Ministries must return to conventional practices as soon as supplies and availability return to normal.**
  - Use of gloves past their manufacturer-designated shelf life for healthcare delivery
    - Non-sterile disposable gloves cleared by the FDA are not required to have an expiration date. Facilities may consider using gloves past their manufacturer-designated shelf life for healthcare delivery. **Sterile gloves past their manufacturer-designated shelf life must not be used for surgical or other sterile procedures.**
  - Prioritize the use of non-sterile disposable gloves
    - Non-sterile disposable gloves must be prioritized for use during activities when gloves are recommended to protect the hands from contact with potentially hazardous substances, including blood and body fluids*.
    - Facilities may consider suspending use of gloves when entering the room of patients with endemic multidrug resistant organisms (e.g., MRSA, VRE, ESBL-producing organisms)*. When HCP are exposed to such MDROs, hand hygiene protocols are stringently followed. In general, gloves, as part of Contact Precautions, should continue to be used for patients colonized or infected with emerging highly-resistant organisms including Candida auris, carbapenemase-producing carbapenem-resistant Enterobacterales, Carbapenemresistant Pseudomonas ssp and Acinetobacter ssp, and pan-resistant organisms.
  - Consider non-healthcare glove alternatives
    - In instances of severely limited or no available disposable medical gloves, non-healthcare disposable gloves (e.g., food service or industrial chemical resistance gloves) may be considered for situations where HCP are not exposed to pathogens. The recommended extended use guidance (below) does not apply to non-healthcare glove alternatives.
  - Extended use of disposable medical gloves- does not apply to non-healthcare glove alternatives.
    - **During glove supply crisis, disposable medical gloves can remain on but must be sanitized between patients within the cohort to prevent cross transmission of any other pathogens from patient to patient.**
      - Extended use of disposable medical gloves by HCP refers to the practice of wearing gloves without changing them between patients or tasks. Disposable medical glove extended wear is most easily implemented when patients are cohorted, such as when caring for a group of patients with the same confirmed infectious disease diagnosis (e.g., patients with confirmed COVID-19) in a shared or adjacent location.
      - Gloved hands must be cleaned following cleaning procedures described in detail below at intervals where gloves would normally be changed (e.g., when moving from a ‘dirty’ to ‘clean’ task, between patients) or hand hygiene normally performed.

- **Disposable medical gloves must always be discarded after:**
  - A glove becomes damaged (for example, discolored, deteriorated, visible tears, holes), contaminated (for example, body fluids, chemotherapy drugs) or no longer provides a liquid barrier.
  - Maximum of four hours of continuous use; or after six times of sanitizing with Alcohol-based hand sanitizer.
  - Doffing. Previously removed gloves should not be re-donned as the risk of tearing and contamination increases. Therefore, disposable glove “re-use” should not be performed.
  - Removing gloves for any reason. Hand hygiene should be performed with alcohol-based hand sanitizer or soap and water.
Methods for performing hand hygiene of gloved hands for extended use of disposable medical gloves

- CDC does not recommend disinfection of disposable medical gloves as standard practice. This practice is inconsistent with general disposable glove usage, but, in times of extreme disposable medical glove shortages, this option may need to be considered.

- Alcohol-based hand sanitizer (ABHS) is the preferred method for performing hand hygiene of gloved hands in healthcare settings when the gloves are not visibly soiled. Research has shown multiple disposable latex and nitrile glove brands maintained their integrity when treated with ABHS.

- Disposable medical gloves can be disinfected for up to six (6) applications of ABHS or until the gloves become otherwise contaminated or ineffective
  - For example, in a drive through testing site, colleagues should perform hand hygiene between each car, and change gloves after six cars, unless gloves become contaminated or compromised.
  - If ABHS is not available, soap and water can be used to clean donned disposable medical gloves between tasks or patients. HCP planning to wash gloves with soap and water should wear long-cuffed gloves; as washing may be impractical for short cuffed gloves where water may become trapped inside the worn gloves. Disposable medical gloves can be cleaned with soap and water up to 10 times or until the gloves become otherwise contaminated or ineffective (for one or more of the reasons stated in extended use guidance above)

- Consider using radiographic protective gloves or radiation attenuating surgeon's gloves that are clean and offer fluid barrier protection. These gloves cannot be sterilized but can be cleaned following the manufacturer's labeling.

- Consider using non-medical gloves such as those used for food service, embalming, cleaning, or other industrial-grade gloves that most closely align with the ASTM standards for medical gloves as outlined in the FDA's Medical Glove Guidance Manual.

- Remember that gloves are for use in the clinical environment only; gloves are property of MercyOne and should not be removed from the environment of care.

Skin Prophylaxis and Treatment for Extended Use of Gloves

If you experience work-related incidents that you believe are a result of the PPE you are wearing (e.g. skin breakdown, rash, etc.), complete a MercyOne Employee Incident Report (THEIR) and follow your ministry's requirements for reporting. If possible, retain the PPE involved to assist with completion of the report.

Apply hand cream every time--after hand hygiene if the condition allows. If wearing gloves for a long duration, emollients containing hyaluronic acid, ceramide, vitamin E or other repairing ingredients are encouraged. Urea-containing emulsions are recommended in treating cracking of the skin.

Long-term use of examination gloves easily causes maceration, characterized by whitening, softening, and wrinkling of the skin. Avoid wearing gloves for a long time and applying hand cream can reverse maceration. *Check with your local hand sanitizer provider to ensure hand creams are compatible with the hand sanitizer in use at your ministry.

If maceration cannot be relieved and subsequent erosion and exudation occur, topical use of zinc oxide ointment is recommended. Colleagues with contact dermatitis can use a low percentage topical glucocorticoid cream. Frequent cleansing and prolonged use of gloves may aggravate pre-existing hand eczema. Moisturizers together with topical glucocorticoid cream will help relieve the exacerbation. *Check with your local hand sanitizer provider to ensure hand creams are compatible with the hand sanitizer in use at your ministry.
Gowns

Gown Selection Guidance
Gowns are provided by local ministry.

Gown Optimization
Gown Stewardship: Gown supplies have stabilized. Ministries must return to conventional use strategies for gowns.

Sample Gown Conservation Strategy
The process below is an example and is not the only solution to gown optimization. Washable gowns are preferred if supply and laundry processes permit. Please see your local Supply Chain to determine the gowns in use in your ministry. All gowns procured by MercyOne meet or are equivalent to Association for the Advancement of Medical Instrumentation (AAMI) standards.

Process:
1. Place hooks right inside of patient room doorways. Hooks and gowns must be stored 3-6 feet from the head of the patient’s bed.
2. Designate one gown, per patient, per discipline (nursing, physician, ancillary), per shift. Gowns must be placed in the laundry:
   o After an aerosol generating procedure
   o When visibly soiled
   o When the colleague suspects the gown is contaminated
3. Donning and doffing:
   o Doff reusable gown & gloves
   o Buddy performs hand hygiene and dons gloves.
   o Caregiver turns their back to the buddy.
   o Buddy unfastens the reusable gown (only touching outside of gown).
   o Buddy doffs gloves and performs hand hygiene.
   o Caregiver sanitizes gloves and cuff of the surgical gown using alcohol-based hand sanitizer.
   o Caregiver doffs gloves using glove to glove, skin to skin technique.
   o Caregiver grabs reusable gown at the wrist and pulls forward. Do not bunch, bundle, or let the gown touch the floor during doffing.
   o Doff respiratory & eye protection according to existing protocols.
     ▪ Note: The same reusable gown will be worn per person per patient.
4. If a buddy isn’t available, caregivers may consider pre-tying the gown neck ties before putting it over their head.
5. At end of shift, place gown into appropriate receptacle.

If designated COVID-19 unit with all confirmed positive patients, or a FURI site, gown may be worn throughout shift with change of gloves and hand hygiene between patients.

Eye Protection

Key Attributes:
- Colleagues may select from face shields, goggles, safety-type glasses or other eyewear that provides protection to front/sides of face, as well as procedure masks with integrated eye shields. Safety glasses or goggles must not be directly vented. Safety glasses or goggles must fit snugly from the corners of the eyes across the brow and must provide side protection that wraps around the temple far enough to protect the eyes from splashes or sprays.
- The following eyewear items are not appropriate precautions against splashes and sprays:
  o Personal eyeglasses or contact lenses.
  o Clip on side shields.
Optimization Strategies
Disinfect eye protection at the end of every shift, when it becomes visibly soiled, or when moving between patients with differing infectious diagnoses (example: moving between COVID-19+ to PUI patients, moving from *C. difficile* patient to MRSA patient).

Prophylaxis and Treatment for Extended Use of Eye Protection
If you experience work-related incidents that you believe are a result of the PPE you are wearing (e.g. skin breakdown, rash, etc.), complete a MercyOne Employee Incident Report (THEIR) and follow your ministry’s requirements for reporting. If possible, retain the PPE involved to assist with completion of the report.

Review Prolonged Ear-Dependent Mask Use Prophylaxis and Treatment under Respiratory Protection.

Respiratory Protection
Overview
Where a respirator is required, colleagues must comply with OSHA’s non-COVID-19 full Respiratory Protection Standard (1910.134), which includes medical evaluations and fit testing for respirators where respirators are required:

- Loose fitting Powered Air Purifying Respirators (PAPRs) do not require fit testing.
- Tight fitting PAPRs do require fit testing.
N95 filtering facepiece respirators and other similar FFRs require fit testing. Reference your ministry’s Respiratory Protection Program (RPP) or contact your RPP Program Administrator for more information.

Where a facemask is required, colleagues have an option to provide their own respirator instead of wearing a facemask. That respirator is covered under the Mini Respiratory Protection Program section of the ETS.

Selection Guidance
See PPE Selection Guide and refer to PPE Purchased by Colleagues for additional information

Clear Mask Options
Procedural and surgical masks cover mouths and noses and impair the ability of those who are deaf or hearing impaired to effectively communicate with healthcare colleagues. Use of a see-through mask instead of a procedural or surgical mask for these populations, where visual cues are essential, can help facilitate understanding and prevent miscommunication. See-through masks are designed for both comfort and breathability of the wearer while providing protection from aerosols, fluids, and sprays through its transparent plastic barrier, and allowing hearing impaired or deaf patients to read health care provider’s lips. See-through masks are NOT N95 or equivalent filtering facepiece respirators and are not to be used in situations where N95 or equivalent respirators are required.

See-through masks must only be used when caring for a patient who is deaf or hearing impaired. This can involve any Non-COVID-19 or Non-PUI area but may be especially appropriate for patient registration and speech pathology areas. Consideration can also be given for use with pediatric patients, behavioral health patients, or patients with other disabilities.

See-through masks are not appropriate PPE for COVID-19 or PUI areas. A PAPR is the preferred PPE when caring for patients who are deaf or hearing impaired in COVID-19 or PUI areas. If a PAPR is not available, the health care provider must wear an N95 or equivalent face filtering respirator.

Elastomeric Respirators
Elastomeric respirators must be colleague-specific, where supply allows. See disinfection of PPE when transferring the respirator between colleagues. These respirators are ideal for colleagues that work with high volumes of COVID-19+ or PUIs, or who perform a high volume of AGPs, such as Respiratory Therapists, Rapid Response Teams, EDs, COVID-19 units, FURI clinics, drive up testing sites, or anesthesia. Colleagues must be fit tested before using an elastomeric respirator.

PAPRs and CAPRs
Powered Air Purifying Respirators (PAPRs) and Controlled Air Purifying Respirators (CAPRs) should be colleague-specific, where supply allows. These respirators are ideal for colleagues that work with high volumes of COVID-19+ or PUIs, or who perform a high volume of AGPs, such as Respiratory Therapists, Rapid Response Teams, EDs, COVID-19 units, FURI clinics, drive up testing sites, or anesthesia. These units may also be considered in ambulatory or other non-Acute settings for contingency when a patient presents unexpectedly at the location, has symptoms of possible COVID-19 and direct care including collection of nasal specimen is required. These devices do not require a fit test.

N95 Respirators
N95 respirators must be colleague specific. An N95 filtering facepiece respirator (FFR) is a type of respirator which removes particles from the air that are breathed through it. These respirators filter out at least 95% of very small (0.3 micron) particles. N95 FFRs can filter out all types of particles, including bacteria and viruses. Not everyone is able to wear a respirator due to medical conditions that may be made worse when breathing through a respirator. Before using a respirator or getting fit-tested, workers must have a medical evaluation to make sure that they are able to wear a respirator safely. In addition, achieving an adequate seal to the face is essential. OSHA’s Respiratory Protection standard requires that
workers undergo fit testing annually and conduct a user seal check each time the respirator is used. Workers must pass fit testing and medical evaluation before using a respirator in the workplace. See Fit Testing for N95 Respirators, below.

**Fit Testing of PAPRs:**

*Loose-fitting PAPRs* do not require a fit test.

*In a non-COVID-19 environment, tight-fitting PAPRs require a fit test.* Additionally, some manufacturers of PAPRs for contingency supply indicate in their *Instructions for Use* that a fit test is required. **OSHA has issued temporary enforcement guidance exempting** industries with very high and high risk of exposure to coronavirus (such as hospitals) from compliance with the annual fit testing requirements for tight-fitting PAPRs with the following requirements.

If it is not possible to conduct fit-testing due to supply shortages of fit-testing kits or solutions, a ministry may consider foregoing fit-testing requirements for properly sized NIOSH-approved tight-fitting PAPRs for protection against SARS-CoV-2 as long as the ministry has complied with all other applicable requirements of the Respiratory Protection standard. When an N95 or better respirator is required AND when is not possible to fit test all affected workers due to a shortage of respirators or fit-testing supplies, a tight-fitting PAPR, without initial or annual fit-testing is categorized by OSHA as more protective than not using any respirator.

“This guidance applies only to fit-testing of NIOSH-approved tight-fitting PAPRs used as a contingency capacity strategy when performing job tasks with high or very high occupational exposure risk to SARS-CoV-2 It does not apply to:

- PAPRs that have not been approved by NIOSH;
- PAPRs used by any workers with low or medium exposure risk to SARS-CoV-2;
- PAPRs used by any workers for protection against airborne hazards other than SARS-CoV-2 (e.g., chemical hazards); and
- Loose-fitting hooded PAPRs that do not require fit-testing”
Procedural and Surgical Mask Fit
The fit of the medical device (i.e. medical grade procedural or surgical mask) used to cover the wearer’s mouth and nose is a critical factor in the level of source control (preventing exposure of others) and level of protection to mitigate the wearer’s exposure to infectious particles. Facemasks that conform to the wearer’s face so that more air moves through the material of the facemask rather than through gaps at the edges are more effective for source control than facemasks with gaps and can also reduce the wearer’s exposure to particles in the air. Use of procedural or surgical masks with metallic nose strips is recommended. See a supervisor or a PPE Coach for assistance with procedural or surgical mask fit.

Respiratory Protection Optimization
System-wide supply of N95 respirators and procedural and surgical masks is monitored by System and
ministry Supply Chain team. These teams are responsible for notifying colleagues and clinicians of any changes in normal inventory. The following are important stewardship work practices for colleagues and clinicians to follow to help support a sustainable supply of respiratory protection and other PPE.

- **For Colleagues:** Assure supplies of disposable masks are secure and their deployment is overseen by colleagues rather than available in unsupervised areas, e.g. respiratory hygiene stations at points of facility entry.

- **For Patients or Visitors:** Colleagues at points of entry to the ministry, e.g. reception, registration, etc. can provide cloth face coverings or disposable procedure masks to patients or visitors upon request and **when these patients and visitors arrive without face covering or a mask.**
  - **Important:** masks do need to be available and provided to patients with symptoms of acute respiratory infection, e.g. fever + cough + shortness of breath. Colleagues at reception/registration can provide these upon request.
  - Patients will be provided with standard procedural masks in the inpatient or ED setting.
    - If not involved in direct care, other healthcare personnel, e.g. support services – Food Services, Facilities Management, are not to enter the rooms of PUIs or those with confirmed COVID-19 except for an emergency or as established by local ministry.
  - Direct care personnel should bundle activities to minimize the number of times a room is entered (e.g., check vital signs during medication administration, deliver food tray and perform room cleaning and disinfection while performing other care, etc.) and plan which activities will be performed at the bedside.
  - Environmental services colleagues may enter patient rooms to provide more in-depth clean when a need is identified by a unit manager. EVS colleagues must wear appropriate PPE.
    - Continue to wear the same procedural mask (i.e., extended use), remove only used gloves and gowns, and perform hand hygiene between treating several patients with the same diagnosis. If the procedural mask, gloves, or gowns become contaminated, replace them. Change gloves in between each patient. Change gown if visibly soiled.
    - Limit the number of personnel that enter rooms used for patients on Contact or Droplet precautions (not PUI or COVID-19) during multidisciplinary rounds, training of nursing, medical students, etc., to conserve supply of procedural masks, respirators and other PPE, e.g. gowns and gloves. Whenever possible designate a member of the multidisciplinary team to examine or interview the patient. The other members can remain just inside the entry to the room.
    - Discontinue contact precautions for patients with history of or colonization with methicillin-resistant Staphylococcus aureus (MRSA) and/or vancomycin resistant Enterococci (VRE). The exception for this would be if the site of detection of MRSA or VRE is not contained, e.g. wound with active drainage of purulent discharge.

### Surgical Mask Conservation

- Prioritize surgical masks for selected activities such as:
  - For **colleagues and clinicians** that provide operative and invasive procedures
  - During care activities where splashes and sprays are anticipated

- Surgical masks (those with ties, rather than ear loops, depicted in Figure 1.0) are to be reserved for operative and invasive procedures. Procedural masks (depicted in Figure 2.0) are to be used in all other areas.

- **Surgical masks must be discarded after each case.**

**Figure 1.0: Surgical Mask (with ties)**  **Figure 2.0: Procedural Mask (with ear loops)**
Procedural masks (those with earloops) may be considered for use in the operative setting if supply of surgical masks (those with ties) becomes limited:

- Procedural masks should first be considered for use by OR staff who are not working directly over the surgical field.
- The procedural mask should fit snugly in a manner that prevents gaps at the sides of the mask:
  - Ear loops that are loose should be tightened in order to help prevent "gapping."
  - Other devices or techniques may be used to assist with fit, but must be covered by the surgical bouffant/cap.
    - Tying small knots at the end of the ear loops until a snug fit is achieved.
    - Mask "ear savers"
    - Button headbands
- The ear loop mask selected should be in accordance with the needed barrier level needed for the operative procedure (for example, Level 3)

**N95 Respirator Work Practices**

- The CDC and FDA have determined the supply of N95 respirators are sufficient and a crisis condition no longer applies at this point in the pandemic. Therefore, conventional work practices are to resume. Any changes that might alter this, e.g. a new surge of patients, will be monitored by the ministry COVID-19 Safety Coordinator who will notify colleagues and clinicians of any change back to contingency or crisis condition. To support this transition back to conventional condition the following practices are to be put into place:
  - All ministries have discontinued decontamination of disposable N95 respirators. The FDA has revoked all emergency use authorizations for decontamination processes.
  - Colleagues in cohorted units or high-volume areas where an N95 respirator is required to be worn continuously during care of all patients, such as ED, Fever and Upper Respiratory Infection (FURI) sites, or acute infectious illness sites, the following work practices must be followed:
    - Discard the N95 respirator, if wearing this type of respiratory protection, when exiting the unit or area (e.g., for meals and breaks). The colleague will obtain a new respirator upon return to the unit or area.
    - If N95 respirator is worn intermittently, e.g. donned when providing direct patient care, follow limited reuse, i.e. the N95 respirator is discarded after the fifth doffing.
    - Colleagues will continue to discard respirators when any of the following criteria are met:
      - Resperator becomes visibly soiled, wet or damaged
      - If wearer is unable to obtain a proper fit seal, see instructions below regarding seal checks.
    - Ministries may choose to operationalize this by either
      - Distributing 3 N95 respirators to the colleague at the beginning of the shift and providing colleagues with a process to obtain more, if needed, or
      - Placing N95 respirators in a supply area where colleagues may obtain more as needed.
○ **Colleagues outside of cohorted units or high-volume areas** will continue with their current conservation strategies for N95 respirators (Limited Re-Use and Extended Use). MercyOne continues to monitor supplies and model usage closely to determine when these strategies may be discontinued.

■ In these areas, distribution is to be overseen by leadership to ensure deployment is managed appropriately. A process for obtaining a new respirator must be known to all colleagues in the unit.

■ N95 respirators in these areas should still be discarded when any of the following criteria are met:
  ● Respirator becomes visibly soiled, wet or damaged
  ● If wearer is unable to obtain a proper fit seal, see instructions below regarding seal checks.
  ● Discard the N95 respirator after doffing for the fifth time. If the colleague is uncertain of the number of doffings, discard and obtain a new one for the next care process in which it is needed.

● **N95 and other disposable respirators must not be shared by multiple HCP.**

● All colleagues, regardless of unit or area assignment, must be able to readily obtain a new respirator, should they need one, in their assigned units. Leadership is to clearly communicate this process to all colleagues.

**N95 Respirator Conservation**

● **Limited reuse** of the N95 respirator is critical to maintain colleague safety and adequate supply throughout the pandemic. Limited Reuse refers to the practice of using the same N95 respirator by one HCP for multiple encounters with different patients but removing it (i.e. doffing) after each encounter. This practice is often referred to as “limited reuse” because restrictions are in place to limit the number of times the same respirator is reused. The CDC states that this process can only be used when a health system is in crisis mode for N95 respirator supplies. **MercyOne continues to monitor supplies and model usage closely to determine when this strategy may be discontinued. Source:** Strategies for Optimizing the Supply of N95 Respirators

  ○ SARS-CoV-2 can be transmitted by direct or indirect contact however, CDC has indicated this mode of transmission is less likely compared to exposure to respiratory droplets from a patient with COVID-19. Even so, colleagues need to focus on hand hygiene after contact with the N95 respirator – especially after doffing.

  ○ Most respirator manufacturers do not specify the maximum number of times a N95 respirator can be worn. If no manufacturer guidance is available, CDC recommends limiting the number of reuses to no more than five uses (five donnings) for each N95 respirator used by an individual colleague or other HCP to ensure an adequate respirator performance.

  ○ N95 respirators used as part of a reuse program must not be decontaminated or reprocessed.

  ○ Wear a face shield, as much as possible over the N95 respirator to minimize risk of contamination of the exterior of the N95 respirator. **A face shield must be worn in addition to some respirator models (some models of PAPRs have full face protection incorporated into the PAPR hood and no additional eye protection is needed for these), when caring for any PUI or patient with acute COVID-19.**

  ○ A colleague participating in a limited reuse program must discard their respirator and obtain a new one when **any of the following criteria are met:**
    • It becomes visibly soiled, wet, or damaged
    • If the wearer is unable to complete a seal check
    • Once the respirator has been doffed a total of five (5) times
      ● If the colleague loses count, discard the respirator and obtain a new one
    • At the end of the shift

  ○ When doffing a respirator that will be donned again, the colleague will utilize the following procedure:
- Perform hand hygiene
- Remove the N95 respirator
- Inspect the respirator for visible soiling or damage after each use.
  - Discard soiled, wet or damaged respirators.
- Place the respirator in a dedicated paper bag
- Store the respirator securely until it is to be donned again.
- Perform hand hygiene

- When donning a respirator that has previously been donned, the colleague will use the following procedure:
  - Perform hand hygiene
  - Remove N95 respirator from the paper bag in which it is stored
  - Perform proper donning procedure
  - Perform seal check after placing N95 respirator over mouth and nose
    - Discard the respirator if it is soiled, wet, damaged, or if unable to complete a seal check.
  - Perform hand hygiene
  - Wear a face shield over the respirator, if available, to reduce/prevent contamination of the N95 respirator – especially during aerosol generating procedures

- When feasible, standardize fit testing using the qualitative method because the respirator used for a qualitative fit test can be worn again after the test. For ministries that have been using quantitative fit test methods, consider a switch to qualitative fit test methods to minimize the destruction of N95 respirators. Any switch in methods should be assessed to ensure aptitude of the fit test operators carrying out the test.
  - **NOTE:** Colleagues must perform a seal check every time they don their N95 respirator.
    - See Performing A Respirator Seal Check and follow the IFU from the manufacturer of the N95 respirator.
- For reprocessing programs HCP must avoid wearing cosmetics below the eyes to optimize reprocessing of N95 respirators.
- Colleagues must wear a face shield to protect the N95 respirator from soil, sprays or other damage when a splash or spray is anticipated.
  - N95 respirators should be discarded when any of the following criteria are met:
    - Respirator becomes visibly soiled, wet, or damaged
  - If wearer is unable to obtain a proper fit seal, they should contact their supervisor or PPE Coach for assistance. Colleagues must achieve a fit seal to use the respirator.
- Never wear a cloth face cover, surgical or procedural mask over an N95 respirator, unless it has an unfiltered exhalation valve (see Source Control in PAPRs, CAPRs and Other Respirators with Unfiltered Exhalation, above). This is against the manufacturer’s instructions for use and will not increase the protection of the respirator.
- Make sure colleagues are aware of alternatives to N95 respirators, e.g., elastomeric, PAPR, EnvoMask, etc., as these are reusable devices.
  - prioritize use of powered air purifying respirators (PAPRs) for all AGPs or other care when indicated for PUIs or patients with COVID-19.
- **Elastomeric or filtering face piece respirators (Including the Envo N95 respirator equivalent) with an exhalation valve and no exhalation valve filter:**
  - Elastomeric or filtering face piece respirators with an exhalation valve and no filter provide respiratory protection but do not provide source control.
  - Elastomeric respirators are equivalent to N95 respirators and most models have an exhalation valve. They are an alternative to N95 respirators and therefore can be used to conserve the supply of N95 respirators. These require fit testing prior to use.
  - Elastomeric or filtering face piece respirators with an exhalation valve and no filter are not recommended for use by HCP providing operative or invasive procedures [see also Operative & Other Invasive Procedures Guidance]. If used in this setting, the exhalation valve must be covered with a surgical or procedure mask.
  - In order to provide respiratory protection and source control, cover the exhalation valve with a procedure mask that does not interfere with the respirator fit.
● Continue to practice PPE conservation strategies for both procedure masks and N95 respirators.
  ▪ All use of these respirators requires the colleague cover the exhalation valve with a procedure mask that does not interfere with the respirator fit.
  ▪ The FDA has recently begun to approve exhalation filters. If an approved exhalation filter is properly installed, the respirator provides source control and a procedural mask is not required. Once approved filters are available, TH Supply Chain will reach out to users.

● **Extended Use/Continuous**: practice of wearing the same N95 respirator for repeated close contact encounters with several different patients, without removing the respirator between patient encounters. Extended use is well suited to situations wherein multiple patients with the same infectious disease diagnosis, whose care requires use of a respirator, are cohorted (e.g., housed on the same hospital unit such as a COVID-19 unit). The CDC recommends this strategy during times of contingency capacity. **MercyOne requires practicing extended use in cohorted units and/or high volume areas such as the ED.**

■ The decision to implement policies that permit extended use of N95 respirators should be made by the professionals who manage the institution’s respiratory protection program, in consultation with their occupational health and infection control departments with input from the state/local public health departments. Source: [Strategies for Optimizing the Supply of N95 Respirators](#)

■ N95 respirators should be discarded immediately after being removed under extended use practice.

■ When practicing extended use of N95 respirators over the course of a shift, considerations should include:
  ▪ The ability of the N95 respirator to retain its fit
  ▪ Contamination concerns
  ▪ Practical considerations (e.g., meal breaks)
  ▪ Comfort of the user

■ **N95 respirators in an extended use program should be discarded immediately after being removed.**
  ▪ If removed for a meal break, the respirator should be discarded, and a new respirator put on after the break.

■ N95 respirators should be discarded and the colleague should obtain a new one when **any of the following occur:**
  ▪ It becomes visibly soiled, wet, or damaged
  ▪ The user is unable to complete a seal check
  ▪ The end of the colleague’s shift

● **Reuse**: refers to reusing the same N95 respirator by the same caregiver multiple times – e.g., during different work shifts. The N95 respirator is donned by the caregiver, removed after each use, then donned again for the next patient. N95 respirators can be stored between use in a paper bag – goal is to have air circulate around the N95 when not in use.

■ N95 respirators used as part of a scheduled re-use program are not to be decontaminated, or reprocessed.
  ▪ Wear a face shield, as much as possible over the N95 respirator to minimize risk of contamination of the exterior of the N95 respirator.

■ **N95 respirators in a scheduled reuse program should be discarded when any of the following criteria are met:**
  ● It becomes visibly soiled, wet, or damaged
  ● If the wearer is unable to complete a seal check, they should follow their local ministry policy for reprocessing
    ▪ Hand hygiene should be performed after both removing and donning during reuse
    ▪ Face shields must be disinfected after each use

For ministries experiencing unexpected disruption in supply of N95 or other equivalent filtering facepiece respirators (FFRs) either related to manufacturer issues or surge of PUIs / those with COVID-19, document
this situation prior to any change in fit testing of colleagues and clinicians who may be provided makes and models of respirators that differ from that in use, e.g. if needing to access stockpiles where there may be a mix of respirators from different manufacturers. **During times of supply shortage, we require the following strategies be deployed:**

- Store all N95 respirators in a central location with a gatekeeper responsible for ensuring appropriate distribution.
- Procedural masks are an acceptable, effective alternative to protect personnel when the supply chain of respirators cannot meet the demand. **During this time, prioritize use of respirators for procedures that are likely to generate respiratory aerosols; AGPs.** For all other care, wear a procedural mask and eye protection.
- If available, personnel should prioritize use of powered air purifying respirators (PAPRs) for AGPs or other care when indicated for PUIs or patients with COVID-19.
- In the surgical environment, extended use of respirators is appropriate PPE conservation strategy.
- If limited amount of PAPRs are available, ask those with facial, especially full-face beards, to shave and use N95 respirators. A guide from NIOSH (Facial Hairstyles and Filtering Facepiece Respirators) on which facial hairstyles are compatible with N95 respirators is posted on **COVID-19 website** and can be used as alternative to removal of all facial hair.
- Assure supplies of N95 respirators are secure and their deployment is overseen by colleagues for appropriate clinical use.
- Until further notice, suspend annual fit testing of N95 filtering facepiece respirators for personnel that were successfully fitted in the prior year to optimize supply for patient care needs.
  - If feasible, fit test personnel who have not previously been fit tested to the model, make and size of N95 respirator provided prior to their use for a PUI or patient with COVID-19. **NOTE:** During this current response to pandemic and ongoing surge of PUIs – instruct colleagues to use seal checks. See seal check guide in the Appendix - following the IFU from the manufacturer of the N95 respirator instead of fit testing all colleagues when a different make and model of N95 respirator is being provided.
  - **Rationale:** stockpiles of N95 respirators are likely to be a different make and model and this may happen repeatedly – there is limited capacity of personnel that are trained to perform fit testing and currently the fit testing solutions are becoming scarce.
    - If fit testing is determined to be feasible by the EHS and or occupational health team use qualitative method only.
- Only essential personnel needed for direct and support services (e.g., EVS) patient care are to enter the room of a patient under investigation (PUI) or confirmed COVID-19. Refer to the Room Cleaning Decision Matrix.
- Assure personnel perform seal check (for proper seal of the N95 respirator) prior to each use. If the colleague cannot achieve a seal:
  - **Colleagues should check in with their supervisor for any concerns about seal check.** The supervisor will assess whether the respirator is damaged or faulty.
    - If the N95 respirator is not damaged or faulty, but the colleague cannot achieve a seal, the supervisor will **ask the colleague** to discard the N95 respirator.
    - If the respirator is damaged or faulty, the PPE Coach or supervisor will discard the respirator and report the issue to Supply Chain for tracking. Retain the respirator and document the lot number before reporting to Supply Chain.
    - This applies to all N95 respirators.
- A colleague’s supervisor or designee will assist the colleague in identifying the appropriate respirator or alternative respiratory protection device (such as a PAPR or CAPR).
- Inform employees to notify Employee Health of changes in their physical condition (e.g., facial scarring, dental changes, cosmetic surgery, or obvious changes in body weight) that could affect fit of N95 respirator to which they were successfully fitted. Explain to personnel that, if their face shape has changed since their last fit test, they may no longer be getting a good facial seal and may not be adequately protected.
- N95 respirators are NOT to be provided to personnel with facial hair (e.g. beard) that interferes with the functionality of the respirator (see Facial Hairstyles and Filtering Facepiece Respirators, Appendix). Options for personnel with a beard are to use PAPR designed for use with facial hair.
or remove facial hair during response to this pandemic and wear a N95 respirator. PAPRs suitable for use with facial hair will vary by manufacturer.

- If available, personnel need to use powered air purifying respirators (PAPRs) for AGPs.

The CDC has provided a list of all manufacturers and model numbers for N95 respirators, as well as alternative approved manufacturers of N95 respirator equivalents. OSHA has also temporarily updated their enforcement guidelines.

- The CDC has also published several strategies for N95 respirator conservation.
  - Extend the use of N95 respirators by wearing the same N95 respirator for repeated close contact encounters with several different patients, without removing the respirator.
  - Implement limited re-use of N95 respirators for caregivers of patients with COVID-19 or PUIs. Note, if the respirator is torn or splashed with body fluids – discard after removal when leaving the isolation room. Important aspects of re-use are:
    - Wear a full-face shield over the N95 respirator to minimize possible contamination during direct care.
    - When doffing, use care as the exterior of the N95 respirator is potentially contaminated. Place the N95 respirator into an unsealed paper bag for next use. Perform hand hygiene prior to donning, and after doffing, respirator.
    - Store the N95 respirator in an unsealed paper bag with the name of the personnel.
    - Don gloves prior to removing the respirator from the bag, be sure to put on gloves prior to any contact with exterior of the respirator.
    - Do not share the same disposable respirator between different healthcare personnel.
  - Ministries that have no touch disinfection (NTD) devices (e.g. ultraviolet germicidal irradiation used for whole room supplemental disinfection) may be able to use this equipment for decontamination of N95 respirators but they should first determine if FDA has issued an Emergency Use Authorization (EUA) for use of these devices for N95 respirators.
    - EUAs change frequently; continue to monitor the Food and Drug Administration FDA website for updates regarding the applicable EUA.
    - A procedure developed by Nebraska Medicine has received an Emergency Use Authorization (EUA) from the Food and Drug Administration (FDA). Sites who wish to pursue a similar option should contact System Office Infection Prevention for more details.
    - Before beginning this process, review the instructions for use for both the N95 respirator and the NTD device to determine compatibility of the N95 respirator with the method used and the disinfection cycle time to achieve disinfection. Please contact Russ Olmsted, System Director of Infection Prevention to review and approve process.
    - Do not attempt to disinfect disposable N95 respirators with disinfectant wipes or other liquids as the face piece is made of a filter media that will be damaged if sprayed with or immersed in liquid.
    - Some local ministries have implemented on-site decontamination of N95 respirators, while others have contracts in place with third party vendors to decontaminate these items. See your local Infection Preventionist and/or Supply Chain to confirm the process in place at your ministry.
  - Use of N95 respirator equivalents approved under standards used in other countries that are similar to NIOSH-approved N95 respirators are acceptable to use. A listing of respirators certified by other countries is available on CDC’s COVID-19 web site.
  - Use N95 respirators beyond the manufacturer-designated shelf life. Only use expired respirators when those are all that is available. Current OSHA enforcement guidance indicates that expired N95 Respirators generally must not be used when HCP perform surgical procedures on patients infected with, or potentially infected with, SARS-CoV-2, or perform or are present for procedures expected to generate aerosols or procedures where respiratory secretions are likely to be poorly controlled. Expired N95 respirators must be clearly marked and follow all guidance set forth in Use of Expired N95 Respirators.
  - Colleagues participating in an N95 respirator optimization strategy must not wear makeup below the eye, as this will compromise the N95 respirator and make it ineligible for re-use.
Prolonged Ear-Dependent Mask Use Prophylaxis and Treatment - Ears

If you experience work-related incidents that you believe are a result of the PPE you are wearing (e.g. skin breakdown, rash, etc.), complete a MercyOne Employee Incident Report (THEIR) and follow your ministry’s requirements for reporting. If possible, retain the PPE involved to assist with completion of the report.

When expecting prolonged use of ear-dependent (“procedural” or “ear loop”) masks, the following steps are recommended for behind the ears care:

**Skin injury prevention recommendations:**
- Consider a headband with buttons or an "ear saver" device to protect ears while wearing mask
- Apply a hydrocolloid dressing (i.e. DuoDERM®) behind the ears for those who are at high risk of skin breakdown from wearing a mask.
- Apply a barrier film wipe (i.e. Cavilon™ No Sting Barrier Film Wipe (1mL)) daily:
  - This product is intended to protect the skin from moisture, adhesives, and friction. Do not use on skin that is not intact.
  - This product provides a clear coating of protection on the skin
  - It is a hypoallergenic, alcohol-free, no-sting formula
  - Apply per manufacturer's instructions
- After use of an ear-dependent mask, clean and dry the external ear. Use of a moisturizer is recommended after cleansing.

**Skin Injury treatment recommendations (skin is not intact or not blanchable):**
- Consider consulting a wound ostomy nurse if skin breakdown occurs.
- Apply a hydrocolloid dressing (i.e. DuoDERM® Extra Thin Hydrocolloid dressing)
- Apply per manufacturer's instructions
- Change dressing per manufacturer instructions

Prolonged PPE Use Prophylaxis and Treatment - Face

It is important to note that masks or N95 respirators should not irritate your skin. If you experience discomfort outside of the below scenarios, complete a THERE and notify your supervisor for guidance. If you experience work-related incidents that you believe are a result of the PPE you are wearing (e.g. skin breakdown, rash, etc.), complete a MercyOne Employee Incident Report (THEIR) and follow your ministry’s requirements for reporting. If possible, retain the PPE involved to assist with completion of the report.

When expecting prolonged use of N95 respirators or masks, the following steps are recommended for care of the face:

**Cosmetics**
Do not wear cosmetics under surgical/procedural masks and respirators as they can contribute to a number of skin issues when combined with prolonged use of PPE.

**Cleansing Routine**
When removing PPE, colleagues should complete hand hygiene and wash their face as soon as possible. Use a gentle hypoallergenic cleanser and warm (not hot) water to thoroughly wash the face, including the nasal vestibule (under the nose) and the retroauricular (behind the ear) area. Allow skin to dry. If the skin is intact, apply moisturizer. For severe contact dermatitis or broken skin, complete a THEIR and report to your supervisor for further evaluation.

**Bruising**
A tight seal is necessary for the respirator to protect the user. However, to relieve pain from bruising, users can apply cool compresses for 20-30 minutes after their shift.

**Eczema**
For irritant contact dermatitis or allergic contact dermatitis, colleagues should
- Wash their face and apply hydrocortisone ointment 1% to affected areas, followed by a barrier cream meant for chapped skin (i.e. Vaseline, Aquaphor).
- Apply a barrier cream both prior to and after mask use.
- Put 1-2 layers of sterile gauze inside a procedure or surgical mask to protect the skin from the mask material, if it is the source of the reaction. The gauze should be changed as it becomes damp or soiled.
- Avoid breathing through the mouth during use of a surgical or procedural mask and keep their lips from contacting the contaminated sides of the mask.
- After removing the mask, avoid touching the face until hand hygiene is performed.

NOTE: Barrier creams may interfere with the fit seal on an N95 respirator. Do not apply creams prior to respirator use. Apply after respirator use only.

Acne
Wash or wipe sweat off the area as soon as the mask or respirator is removed. Consider a face wash with salicylic acid or benzoyl peroxide. Do not wear cosmetics under an N95 respirator as this may exacerbate the issue.

Skin Breakdown
Wash with a gentle soap or cleanser. Apply a barrier cream meant for chapped skin (ex. Vaseline, Aquaphor). While off-duty, consider a hydrocolloid dressing. NOTE: Barrier creams or padding may interfere with the fit seal on an N95 respirator. Do not apply creams prior to respirator use. Apply after respirator use only.

Performing a Respirator Seal Check
Colleagues must perform a seal check every time they don a N95 Respirator.
RESPIRATOR SEAL CHECK

After you put on your respirator, perform a seal check by placing your hands over the facepiece, as shown below, and then exhaling gently. The seal is considered satisfactory if a slight positive pressure builds up inside the facepiece without air leaking from the seal. Air leakage is evidenced by the fogging of your glasses, a feeling of air trickling down your uncovered face, or a lack of pressure buildup under the facepiece.

If the respirator has an exhalation valve, cover the filter surface with your hands as much as possible and then inhale. The seal is considered satisfactorily if the facepiece collapses on your face and you don't feel air passing between your face and the facepiece.

Source: Lippincott Nursing, procedures. Online.

Facial Hairstyles and Filtering Facepiece Respirators, NIOSH, CDC 2017
Facial Hairstyles and Filtering Facepiece Respirators

Intended for workers who wear tight-fitting respirators

- Clean Shaven
- Stubble
- Long Stubble
- Full Beard
- French Fork
- Ducktail
- Verdi
- Garibaldi
- Bandholz
- Soul Patch
- Goatee
- Chin Curtain
- Extended Goatee
- Circle Beard
- Anchor
- Balbo
- Van Dyke
- Imperial
- Side Whiskers
- Mutton Chops
- Hulhhee
- Horseshoe
- Zappa
- Walrus
- Painter's Brush
- Chevron
- Handlebar
- Pencil
- Toothbrush
- Lampshade
- Zorro
- Villain
- Fu Manchu
- English
- Dali
Miscellaneous PPE

Head Covers
The CDC does not currently require the use of head covers such as surgical bouffant for the care of COVID-19 patients or PUIs. Supply of surgical bouffant caps is to be conserved for use in the surgical and procedural areas as raw materials used to make these products are becoming more difficult to obtain.

Alternatives to surgical bouffant caps that can be considered if desired by the caregiver:
- Bouffant caps that are traditionally used for food and nutrition areas
- Shower caps
- Satin hair bonnets (often found in beauty supply stores)
- Staff may also consider procuring their own re-usable Cloth head covers
  - Colleagues will not be reimbursed for purchases made outside of our Procurement channels, and MercyOne is not responsible for maintenance of these head covers
- Cloth head covers should be laundered daily
- If colleagues choose to procure their own head covers, they must adhere to local policy for professional attire.

Head coverings are not required or recommended. If a colleague chooses to wear a head covering, it is preferred for the colleague to keep the head cover on throughout their shift. Colleagues may wear head coverings between COVID and non-COVID rooms all day while other PPE is changed out. Because it is not addressed by CDC PPE guidance, head coverings are not considered PPE.

If the colleague removes the cover, e.g. during breaks or lunch:
- Donning:
  - Perform hand hygiene before donning a head covering
  - Don the head cover
  - Perform hand hygiene after donning
- Doffing:
  - Perform hand hygiene before doffing a head covering
  - Doff the head cover
  - Store the head cover in a separate paper bag.
  - Perform hand hygiene after doffing

Head covers must be washed in hot water and laundry soap, adding bleach to the load.

Shoe Covers
The CDC does not currently require the use of shoe covers for the care of COVID-19 patients or PUIs. Supply of shoe covers are to be conserved for use in areas where they are dictated by Standard or Transmission-Based Precautions as raw materials used to make these products are becoming more difficult to obtain.
## Disinfection of PPE

<table>
<thead>
<tr>
<th>Item Type</th>
<th>Sample Image (styles vary by site)</th>
<th>Sub Type</th>
<th>Disinfection Process</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAUTION:</strong> Always hold items away from your airway during disinfection and allow to fully dry before re-donning. Failure to do so may result in irritation of the airway.</td>
<td></td>
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</tr>
<tr>
<td><strong>Face Shields</strong></td>
<td><img src="image1" alt="Face Shield" /></td>
<td>Disposable or Reusable</td>
<td>1. While wearing gloves, carefully wipe the inside, followed by the outside of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe. If available, use a sanitizing wipe designed for touch screens. 2. Hold the shield in your hand while you carefully wipe the outside of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution. <strong>Do not place the shield on a flat surface; doing so may cause the shield to crack.</strong> 3. Hold the shield in your hand while you wipe the outside of face shield or goggles with clean water or alcohol to remove residue. <strong>Do not place the shield on a flat surface; doing so may cause the shield to crack.</strong> 4. Fully dry (air dry or use clean absorbent towels). 5. Remove gloves and perform hand hygiene.</td>
</tr>
<tr>
<td><strong>Goggles /Eye Protection</strong></td>
<td><img src="image2" alt="Goggles" /></td>
<td></td>
<td>1. While wearing gloves, carefully wipe the inside, followed by the outside of the face shield or goggles using a clean cloth saturated with neutral detergent solution or cleaner wipe. If available, use a sanitizing wipe designed for touch screens. 2. Hold the item in your hand and carefully wipe the outside of the item using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution. <strong>Do not place the item on a flat surface; doing so may cause hard plastic items to crack.</strong> 3. Hold the item in your hand and wipe the outside (patient facing side) of goggles with clean water or alcohol to remove residue. <strong>Do not place the item on a flat surface; doing so may cause hard plastic items to crack.</strong> 4. Fully dry (air dry or use clean absorbent towels). 5. Remove gloves and perform hand hygiene.</td>
</tr>
<tr>
<td><strong>Respirators</strong></td>
<td><img src="image3" alt="Respirator" /></td>
<td>N95 Respirators</td>
<td>Follow your ministry's reprocessing procedure (see your Sterile Processing Department or Supply Chain for details) <strong>Please note: ministries must discontinue</strong></td>
</tr>
<tr>
<td>Item</td>
<td>Instructions</td>
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<td>------------------------------------------------------------------------------</td>
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<tr>
<td>PAPRs</td>
<td>Follow manufacturer's Instructions for Use (IFU) and/or see <a href="#">PAPR Disinfection guidance</a></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAPRs</td>
<td>Follow manufacturer's Instructions for Use (IFU)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elastomerics/Envo Masks</td>
<td>Follow manufacturer's Instructions for Use (IFU). Follow the IFU for submersion disinfection before the respirator is used by a colleague other than the designated user, or if the respirator is assigned to another user. Note: Filter cartridges should be handled following the manufacturer's Instructions for Use (IFU). Careful selection of disinfectant is needed to prevent the degradation or deterioration of the respirator material.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reusable Gowns</td>
<td>Gowns must be laundered according to local policy.</td>
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</tr>
</tbody>
</table>
| Gloves                | While disinfecting of gloves is not recommended, during times of supply crisis colleagues may do so to extend the life of the glove. Observe and adhere to all manufacturer IFUs. When re-using gloves, change after six uses/disinfections.  
  • Isopropyl alcohol-based hand sanitizers are acceptable to use on gloves  
  • If using ethanol-based hand sanitizer on vinyl, change gloves every hour or after six uses, whichever is more frequent |

Vinyl and Nitrile
Appendix

Signs and Job Aids
Glossary

**ABHR** = Alcohol Based HandRub; used for hand hygiene and typically contains > 60% ethyl alcohol (ethanol)

**AGP** = aerosol generating procedure

**CAPR** = controlled air purifying respirator

**Close contact** = being within 6 feet of any other person for a cumulative total of 15 minutes or more over a 24-hour period during that person’s potential period of transmission. The potential transmission period runs from 2 days before the person felt sick (or, for asymptomatic people, 2 days prior to test specimen collection) until the time the person is isolated.

**Elastomeric respirator** = a tightfitting respirator with a facepiece that is made of synthetic or rubber material that permits it to be disinfected, cleaned, and reused according to manufacturer’s instructions. It is equipped with a replaceable cartridge(s), canister(s), or filter(s).

**Eye Protection** = protects the eyes from splashes or sprays. Includes goggles, safety glasses, face shields etc. Personal eyeglasses or contact lenses are not eye protection.

**Facemask** = a surgical, medical procedure, dental, or isolation mask that is FDA-cleared, authorized by an FDA EUA, or offered or distributed as described in an FDA enforcement policy. Facemasks may also be referred to as “medical procedure masks.”

**Filtering Facepiece Respirator (FFR)** = a respiratory protective device that covers the nose and mouth, and is a tight-fitting, air-purifying respirator in which the whole facepiece functions as the filter. FFRs are certified by National Institute for Occupational Safety and Health (NIOSH). Includes the following devices:

- N95 Respirators
- Elastomeric Respirators

**MDI** = metered dose inhaler

**PAPR** = (powered air purifying respirator) = an air-purifying respirator that uses a blower to force the ambient air through air-purifying elements to the inlet covering.

**Patient Facing** = Colleagues who encounter patients routinely in the course of their work. There are two types of patient facing colleagues:

- **Direct Patient Care** colleagues are routinely within 6 feet of a patient
- **Non-Direct Patient Care** may encounter patients but are usually further than 6 feet away (ex. Food and Nutrition Services)

**Personal Protective Equipment (PPE):** Personal protective equipment, commonly referred to as “PPE”, is equipment worn to minimize exposure to hazards that cause serious workplace injuries and illnesses. These injuries and illnesses may result from contact with chemical, radiological, physical, electrical, mechanical, or other workplace hazards.

**Respirator** = a type of personal protective equipment (PPE) that is certified by NIOSH under 42 CFR part 84 or is authorized under an EUA by the FDA. Respirators protect against airborne hazards by removing specific air contaminants from the ambient (surrounding) air or by supplying breathable air from a safe source. Common types of respirators include filtering facepiece respirators, elastomeric respirators, and PAPRs. Face coverings, facemasks, and face shields are not respirators.
Links to Cleaning Guidance

- Discharge (terminal) Room Cleaning – single and semi-private rooms
- Emergency Department COVID-19 patient room cleaning
- FURI Clinic cleaning and Well Clinic Cleaning can both be found in the COVID-19 Emergency Guidebook for Resuming Services
Air changes/hour (ACH) and time required for airborne-contaminant removal by efficiency

<table>
<thead>
<tr>
<th>ACH</th>
<th>90%</th>
<th>99%</th>
<th>99.9%</th>
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<tr>
<td>1</td>
<td>138</td>
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<td>8</td>
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</table>

*This table has been adapted from the formula for the rate of purging airborne contaminants (99). Values have been derived from the formula \( t_1 = \left[ \ln \left( \frac{C_2 + C_1}{Q + V} \right) \right] \times 60 \), with \( t_1 = 0 \) and \( C_2 = C_1 - \text{(removal efficiency \times 100)} \), and where:

\[
\begin{align*}
    t_1 & = \text{initial timepoint} \\
    C_1 & = \text{initial concentration of contaminant} \\
    C_2 & = \text{final concentration of contaminants} \\
    Q & = \text{air flow rate (cubic feet per hour)} \\
    V & = \text{room volume (cubic feet)} \\
    Q + V & = \text{ACH}
\end{align*}
\]

The times given assume perfect mixing of the air within the space (i.e., mixing factor = 1). However, perfect mixing usually does not occur, and the mixing factor could be as high as 10 if air distribution is very poor (99). The required time is derived by multiplying the appropriate time from the table by the mixing factor that has been determined for the booth or room. The factor and required time should be included in the operating instructions provided by the manufacturer of the booth or enclosure, and these instructions should be followed.

Source: https://www.cdc.gov/infectioncontrol/guidelines/environmental/appendix/air.html
## Contingency Tiered Approach Based on Inventory of PPE if Inventory is at Crisis Level

<table>
<thead>
<tr>
<th>PPE Type</th>
<th>Strategies for Crisis Capacity of PPE (Regular and alternate products)</th>
<th>Possible Substitution</th>
</tr>
</thead>
</table>
| N95 Respirator | • Extended use  
• Reuse  
• Assign staff that have recovered from COVID-19 and have them wear a procedural mask to care for COVID-19 patients. | • Elastomeric or industrial respirator  
• Non-surgical respirator, or any filtration capacity above 95%  
• PAPR |
| Isolation Gowns| • Prioritize gowns for use during AGP, high touch procedures, do not use when entering room if nothing is going to be touched.  
• Use “safe/PPE free zone” just inside door to isolation room. | • Hazmat suits  
• Reusable isolation gowns (verify the gown is impermeable/liquid resistant)  
• Paper gowns  
• Plastic aprons to cover critical zones  
• Lab coat or jacket  
• Waterproof sports gear  
• Last resort: any physical barrier |
| Procedural Mask| • Extended use  
• Reuse | • Non-fluid resistant procedure masks (blue cones)  
• Use N95 respirators, CAPRs, PAPRs, isometric respirators  
• Utilize non-fit tested expired N95 respirators in pharmacy sterile compounding with extended use/reuse  
• Last resort: any physical barrier between patient and mucous membranes / homemade products |
| Surgical Masks | • Extended use  
• Reuse | • Procedural mask (see Surgical Mask Conservation, above) |
| Eye Protection | • Disinfect and reuse eye protection – assign to each caregiver during assigned shift. If disinfected can be used between personnel | • Industrial face shields (for grinding metal)  
• Industrial goggles, safety glasses, etc.  
• Last resort: homemade face shields (must be MercyOne-approved) |
Examples of aerosol generating procedures

Aerosol Generating Procedures include, but are not limited to:

- CPR
- Sputum induction (not recommended)
- Open deep oral suctioning/tracheal suctioning
- Intubation/extubation
- High flow nasal oxygen
- Bipap/CPAP
- Nebulizer treatments
- Bronchoscopy
- NG Tube placement
- Manual ventilation
- Nasopharyngeal/oral areas-nasotracheal endoscope
- Tracheostomy placement or ongoing care
- Medical/surgical/postmortem procedures using oscillating bone saws
- Dental procedures involving: Ultrasonic scalers; high-speed dental handpieces; air/water syringes; air polishing; and air abrasion
Aerosol Generating Procedure in Process

Authorized Trained Personnel Only

- Keep Door Closed
- See Facilities for post-procedure clearance times
- All entrants must wear an N95 Respirator + Eye Protection or a PAPR until the clearance time has passed

Time Procedure Ended: __________

Time Room is Available: __________
Background
The World Health Organization declared the COVID-19 pandemic on March 11, 2020. The pandemic has created an increased demand for N95 FFRs, limiting availability for use in protecting workers in healthcare and emergency response from exposure to the virus. As a result, the President directed the Secretary of Labor to “[consider] all appropriate and necessary steps to increase the availability of respirators.”[3]

Although the Secretary, through OSHA, has allowed for enforcement flexibility with regard to some provisions of the Respiratory Protection standard, the availability of N95 FFRs or other respirators certified by the National Institute for Occupational Safety and Health (NIOSH) under 42 CFR Part 84 remains a concern throughout the country.

In some circumstances, additional supplies of respirators certified under standards from other countries or jurisdictions may be available. During periods of shortages of N95 FFRs, the federal government advises that FFRs, air-purifying elastomeric respirators, and compatible filters certified under the following standards of other countries or jurisdictions will provide greater protection than surgical masks (i.e., facemasks, other than surgical N95s[3]), homemade masks, or improvised mouth and nose covers, such as bandanas and scarves:

- Australia: AS/NZS 1716:2012
- People’s Republic of China: GB 2626-2006; and GB 2606-2019
- Japan: JMHUW-2000
- Republic of Korea: KMOEL-2014-46; and KMOEL-2017-64

Certification in accordance with these standards ensures that devices provide similar filtration as NIOSH-certified equipment, as described in Tables 1 and 2, below, and, accordingly, have an assigned protection factor greater than or equal to 10.

PPE from Other Countries

Sample Gown Conservation Strategies

Conservation strategies for gowns may vary from ministry to ministry, or even unit to unit. There is no one-size-fits-all approach. Several methods that have been tested and deemed safe and effective are included here for reference. If in doubt as to the safety of a method, work with Infection Prevention and Clinical Leadership to review the method in place at your ministry and make any necessary operational adjustments. The processes below are examples and are not the only solutions to gown optimization. Washable gowns are preferred if supply and laundry processes permit. Please see your local Supply Chain to determine the gowns in use in your ministry. All gowns procured by MercyOne meet or are equivalent to Association for the Advancement of Medical Instrumentation (AAMI) standards.

Option 1: One gown per patient per discipline
- Place hooks right inside of patient room doorways. Hooks and gowns must be stored 3-6 feet from the head of the patient’s bed.
- Designate one gown, per patient, per discipline (nursing, physician, ancillary), per shift. Gowns must be placed in the laundry:
  - After an aerosol generating procedure
  - When visibly soiled
  - When the colleague suspects the gown is contaminated
- Donning and doffing:
  - Doff reusable gown & gloves
  - Buddy performs hand hygiene and dons gloves.
  - Caregiver turns their back to the buddy.
  - Buddy unfastens the reusable gown (only touching outside of gown).
  - Buddy doffs gloves and performs hand hygiene.
  - Caregiver sanitizes gloves and cuff of the surgical gown using alcohol-based hand sanitizer.
  - Caregiver doffs gloves using glove to glove, skin to skin technique.
  - Doff respiratory & eye protection according to existing protocols.
- If a buddy isn’t available, caregivers may consider pre-tying the gown neck ties before putting it over their head. When doffing, remove gloves and perform hand hygiene before untying gown.
- At end of shift, place gown into appropriate receptacle.

If designated COVID-19 unit with all confirmed positive patients, or a FURI site, gown may be worn throughout shift with change of gloves and hand hygiene between patients.

Key considerations:
- Conservation of gowns
- Gowns are dedicated to each patient
- Risk of cross contamination if colleagues are not donning and doffing correctly.

Option 2: Extended use – Unit-specific:
This method may be considered in units where all patients are confirmed positive, with no PUIs.
- PPE cart is placed at entry of unit. Colleagues don their gown at the entrance to the unit.
- Colleagues are to follow their unit’s guidelines for respiratory protection.
- Gowns: colleagues wear the same gown until:
  - The gown is visibly soiled or damaged
  - The colleague exits the unit
  - The colleague enters the break room
• Gloves:
  • Colleagues complete hand hygiene and don gloves upon entry to a patient room.
  • Colleagues doff gloves and complete hand hygiene upon:
  • Exiting a patient room or the unit
  • Complete hand hygiene when entering or exiting the break room. Gloves are never to be worn in
  break rooms.

When this method is suspended, the entire unit must be terminally cleaned.

**Key considerations:**
• Hand hygiene critical to prevent cross contamination
• All PPE is replaced if visibly soiled or damaged.

**Option 3: Extended use – Task-specific:**
This method may be considered in units where all patients are confirmed positive, with no PUIs.
• Clinical colleagues group care for patients. Example: CNA performs vital sign checks on all COVID-19+
  patients. The colleague dons a gown prior to the first patient and doffs after the final patient.
• Colleagues are to follow their unit’s guidelines for respiratory protection.
• Gowns: colleagues wear the same gown until:
  • The gown is visibly soiled or damaged
  • The colleague completes the task for all COVID-19+ patients.
  • The colleague exits the unit
  • The colleague enters the break room

• Gloves:
  • Colleagues complete hand hygiene and don gloves upon entry to a patient room.
  • Colleagues doff gloves and complete hand hygiene upon:
  • Exiting a patient room or the unit
  • Complete hand hygiene when entering or exiting the break room. Gloves are never to be worn in
  break rooms.

**Key considerations:**
• Hand hygiene critical to prevent cross contamination
• All PPE is replaced if visibly soiled or damaged.
envo® Mask Use Guidelines

Envo Mask without vent plug (left) and with vent plug (right)

Key Considerations: The envo® mask is a reusable NIOSH approved N95 respirator designed for superior comfort and seal. The AIRgel® cushion contours around the face and nose to provide a secure seal and to avoid glasses fogging. **Users must wear either a vent plug (pictured below) or a procedure mask over the exhalation valve in order to maintain source control.**

- Individually packaged filters remain clean and electrostatically charged until ready to use. Each filter has a ten-year shelf life, allowing for long term storage.
- Each mask kit includes mask, five (5) filters, headgear and storage case.
- All colleagues must be trained and fit tested prior to use. Colleagues must work with the ministry resource for fit testing and use the qualitative (non-destructive) fit testing option. This respirator cannot be fit tested using the quantitative (destructive) fit testing method.

General Guidelines

Prior to initial use:
- View the instruction videos [here](#). **Do not click the Shop envo® mask link on this page.** All procurement is to be done through Trinity Health/CommonSpirit Supply Chain.

Prior to each use
- **Inspect** respirator before each and every use to ensure that it is in good operating condition.
- **Examine** all the parts of the respirator for signs of tears, breakage, or other damage. This includes the QuickFit headgear, exhalation valve, AIRgel® cushion, and filter.
- **Inspect** the filter prior to each and every use to ensure there are no holes or damage from misuse and it is not soiled and/or clogged.
- **Conduct** a user seal check before use as specified in the Fitting Instructions section of the Instructions for Use (IFUs).

  - **DO NOT** use the respirator if conditions exist that prevent a good seal between the face and the AIRgel® cushion of the respirator.
- **DO NOT** use with beards, other facial hair, or other conditions that prevent a good seal between the face and the sealing surface of the respirator.
How to use
• View the instruction video here.

After each use:
• Dispose of soiled/clogged filters and damaged parts.
• See the Disinfection of PPE guidelines for disinfection of elastomeric respirators/envo® masks for disinfecting guidance. Clean components per the manufacturer’s instructions. Allow to dry prior to placing in the storage case.
• Store the respirator and sealed filters in the envo® mask storage case away from contaminated areas when not in use. Unused filters should always be stored in the sealed poly bag and may be kept in the storage case (provided).

Filters:
Refer to guidance on N95 Respirator Conservation for guidance on the lifespan of the filters.