Personal Protective Equipment (PPE) Guidebook for PUIs and COVID-19, ver. 24.0 Revised 01/07/2021
Summary of Changes in this Version

- Added recommendation for ministries to move to qualitative fit testing (where feasible) in order to conserve N95 respirator supplies
- Incorporated recommendations from CDC regarding procedure mask for source control for those using elastomeric respirators or PAPRs
- Added PPE for Vaccinators to the PPE Selection Guide
- Added instructions for personnel on PPE for responding to emergent/urgent patient need (page 12)
- Elastomeric respirators must be colleague-specific and are to be disinfected by submersion per the manufacturer’s Instructions for Use (IFU) if assigned to another user. (page 21 and 33)
- Updated reference to the Nebraska Medicine protocols for decontamination of N95 respirators (page 26)
## Table of Contents

Summary of Changes from Version 23.0 .................................................. 2

**OSHA Compliance** .............................................................................. 5

**PPE Purchased by Independent Providers** ......................................... 7

**PPE Purchased by Employed Colleagues** ........................................... 7

**CDC Recommendations** ................................................................... 8
  - **Universal Source Control** ............................................................. 8
  - **Standard Precautions Definition** ................................................... 9
  - **Transmission Based Precautions Definition** ................................. 9
  - **Community Transmission Rates** ................................................... 9
  - **Precautions for Patients with Suspected or Confirmed COVID-19+** 10
  - **Precautions for Patients who are not Suspected or Confirmed COVID-19+** 10

**Summary of PPE Conservation Strategies** .......................................... 11

**PPE Selection Guide** ........................................................................ 12

**Donning and Doffing PPE** ................................................................. 13

**Gloves** ............................................................................................... 15
  - **Selection Guidance** ................................................................. 15
  - **Optimization Strategies** ............................................................ 16
  - **Surge Capacity Strata for Prioritizing Conservation Measures** ...... 16
  - **Skin Prophylaxis and Treatment for Extended Glove Use** ............ 17

**Gowns** ............................................................................................... 18
  - **Selection Guidance** ................................................................. 18
  - **Optimization Strategies** ............................................................ 18

**Eye Protection** ................................................................................... 19
  - **Selection Guidance** ................................................................. 19
  - **Optimization Strategies** ............................................................ 19
  - **Prophylaxis and Treatment for Extended Use of Eye Protection** .... 20

**Respiratory Protection** ..................................................................... 21
  - **Selection Guidance** ................................................................. 21
• Elastomeric Respirators
• PAPRs and CAPRs
• How to Wear a Procedure Mask
• Respiratory Protection Optimization
  - Surgical Mask Conservation
  - N95 Respirator Conservation
• Prophylaxis and Treatment for Extended Use of Respiratory Protection
• Performing a Respirator Seal Check
• Facial Hairstyles and Filtering Facepiece Respirators

Miscellaneous PPE
Disinfection of PPE
Appendix
Glossary
Links to Cleaning Guidance

Air Changes/Hour (ACH) and time required for airborne-contaminant removal by efficiency
Contingency Tiered Approach Based on Inventory of PPE if Inventory is at Crisis Level
Aerosol Generating Procedures
PPE From Other Countries
Sample Gown Conservation Strategies
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. The purpose of this section is to reinforce requirements when colleagues or clinicians are wearing an N95 respirator.

N95 respirators are provided to colleagues caring for persons under investigation (PUI) or those confirmed to have COVID-19 for respiratory protection, especially when performing procedures that involve higher risk of possible exposure to SARS-CoV-2. A NIOSH-certified N95 filtering facepiece respirator (commonly called “N95 respirator”) is a personal protective device that is worn on the face that covers the nose and mouth and is used to reduce the wearer’s risk of inhaling SARS-CoV-2. N95 respirators remove particles from the air that are breathed through it. These respirators filter out at least 95% of very small (0.3 micron) particles.

OSHA’s Respiratory Protection standard covers respiratory protection requirements for workplaces where respirators are necessary to protect the health of the employee under OSHA’s respiratory protection program (standard 1910.134).

- OSHA has issued temporary guidance for enforcing the Respiratory Protection standard, 29 CFR § 1910.134, regarding supply shortages of N95 filtering facepiece respirators due to the COVID-19 pandemic. This includes discretion concerning the required annual fit testing.

Enforcement memorandum that are in effect include the following:


N95 or Other Filtering Facepiece Respirator Conservation and Evaluation

- **IMPORTANT**: 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 or COVID-19+ patients, 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.
  - This documentation and applicable guidance from System Office, OSHA enforcement requirements, and CDC recommendations at the point in time any variation from these guidance references is needed must be archived as part of this documentation file. This will assist with ministry response if there is a subsequent complaint or scheduled inspection by OSHA.
  - Local Incident Command and/or executive leadership team should collaborate with those who understand and lead the ministry's respiratory protection program and communicate to personnel when
changes in fit testing requirements from OSHA’s Respiratory Protection standard or other applicable temporary enforcement guidance is needed due to supply limitations.

- Use NIOSH approved respirators that are not expired as supplies allow
  - Re-use/extend the use of non-expired respirators when supply is low
- **Only** use expired respirators when that is the only option available
  - Expired N95 Respirators generally must not be used when healthcare providers (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 (e.g., cardiopulmonary resuscitation, intubation, extubation, bronchoscopy, nebulizer therapy, sputum induction). Refer to the [Use of Expired N95 Respirators Guidance](https://www.osha.gov/memos/2020-04-03/enforcement-guidance-respiratory-protection-and-n95-shortage-due-coronavirus).
  - Prioritize efforts to acquire and use equipment that has not exceeded its manufacturer’s recommended shelf life before allowing workers to use equipment that is beyond its manufacturer’s recommended shelf life. Equipment use beyond its manufacturer’s recommended shelf life must be done in accordance with OSHA’s Enforcement Guidance for Respiratory Protection and the N95 Shortage Due to the Coronavirus Disease 2019 (COVID-19) Pandemic [https://www.osha.gov/memos/2020-04-03/enforcement-guidance-respiratory-protection-and-n95-shortage-due-coronavirus](https://www.osha.gov/memos/2020-04-03/enforcement-guidance-respiratory-protection-and-n95-shortage-due-coronavirus).
  - Carefully evaluate non-NIOSH approved respirators by surveying the literature and consensus from internal subject matter experts

- Implement strategies recommended by CDC and OSHA for optimizing and prioritizing N95 respirators. See [N95 Respirator Conservation](https://www.osha.gov/SLTC/erytoolkit/erytoolspersonal.html) for detailed information.

**Fit Testing Methods & Related Conservation Strategies for N95 respirators:**

- **Fit Test Methods:** There are two methods of fit testing – quantitative and qualitative. A quantitative fit test uses an instrument to numerically measure the effectiveness of the respirator. A qualitative fit test is a pass/fail test that relies on the individual’s sensory (taste or smell) detection of a test agent such as Saccharin (sweetener) or Bitrex® (bitter) solutions.

- **Conservation strategy:** When feasible, qualitative fit testing is the preferred method of fit testing to help slow the depletion of the inventory of N95 respirators, because the respirator used for a qualitative fit test can be worn again after the test. (Quantitative fit testing requires a hole to be punched in the respirator and therefore it must be disposed of after the test.).

- Temporarily suspend annual fit testing of N95 respirators to preserve the supply if the same model, style, and size respirator for which the colleague was successfully fitted during the prior year's fit testing is used.

- OSHA enforcement directives do address and acknowledge the continued instability in supply of PPE as well as variability in incidence of SARS-CoV-2 by region and state. Federal OSHA has published these expectations:
  - Provide training to HCP using respirators to understand that if the structural and functional integrity of any part of the respirator is compromised, it should be discarded, and that if a successful user seal check cannot be performed, another respirator should be tried to achieve a successful user seal check. See [Performing a Respirator Seal Check](https://www.osha.gov/erytoolkit/erytoolspersonal.html).
  - If colleagues are provided a N95 respirator that is different than the make and model to which they were fitted during the prior year, a fit test for the new N95 respirator must be provided prior to use for respiratory protection during patient care.

- Conduct a repeat fit test this year if a colleague is aware of changes in their physical condition that could affect respirator fit (e.g., facial scarring, dental changes, cosmetic surgery, or obvious changes in body weight) to assure the N95 respirator is adequately protecting the colleague.

- Colleagues are encouraged to alert their supervisor or [PPE Coach](https://www.osha.gov/erytoolkit/erytoolspersonal.html) if the integrity and/or fit of their N95 respirator is compromised for assistance with obtaining an alternative.

- **HCP must perform a user seal check each time they don a respirator.** Explaining the importance of seal check to employees and providing needed assistance to ensure this objective is met. (i.e. use of PPE safety coaches or other colleagues trained in proper use of PPE (i.e. surgical techs) to help evaluate seal checks).

- Follow state OSHA requirements when they are more restrictive than Trinity Health’s 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 Trinity Health Employee Incident Report (THEIR) and follow your ministry’s requirements for reporting. If possible, retain the PPE involved to assist with completion of
In an effort to ensure adequate supplies of PPE, Trinity Health is working to source PPE produced in other countries, as well as domestically produced options. A list of other countries with standards verified as similar to NIOSH can be found in OSHA’s Enforcement Guidance for Use of Respiratory Protection Equipment Certified under Standards of Other Countries or Jurisdictions During the Coronavirus Disease 2019 (COVID-19) Pandemic: https://www.osha.gov/memos/2020-04-03/enforcement-guidance-use-respiratory-protection-equipment-certified-under. See Appendix for additional detail.

Refer to the PAPR Guidelines in this document.

PPE Purchased by Independent Providers
Independent providers will abide by Trinity Health guidance regarding procurement, maintenance and use of PPE.

PPE Purchased by Employed Colleagues
For employed colleagues, Trinity Health 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:** Colleagues may provide their own respirator under two circumstances. **NOTE:** these circumstances do not apply to any other types of PPE (see below).
  - Colleagues may provide their own respirator under two circumstances.
    - **Circumstance 1:** ALL OF THE FOLLOWING APPLY:
      - Respirator use is not required by Trinity Health for that colleague or for that colleague’s job tasks **AND**
      - Trinity Health agrees to permit voluntary use **AND**
      - Trinity Health has confirmed the colleague is medically able to use the respirator (not required for filtering facepiece/N95) **AND**
      - Trinity Health has determined the respirator being used by the colleague would not in itself create a hazard **AND**
      - Trinity Health 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 Trinity Health for that colleague or for that colleague’s job tasks **AND** Trinity Health 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**
      - Trinity Health has determined the respirator being used is of an equivalent or higher protection level as the respirator that is required by Trinity Health **AND**
      - The colleague passes a fit test for the respirator the colleague is supplying **AND**
      - Trinity Health 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
• **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.
  - Trinity Health 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 Trinity Health 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 Distribution Center (DISC). Questions about specific makes and models of eye protection and other PPE should be referred to the ministry’s Supply Chain team and escalated to System Office Supply Chain Mailbox (PPEReqQuestions@trinity-health.org) if there are additional questions.

• **All Other PPE:**
  - Trinity Health does not permit colleagues to voluntarily bring in their own PPE unless Trinity Health is experiencing a critical supply shortage in that type of PPE.
  - Trinity Health 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 Trinity Health 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.
  - 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.
  - 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.

- Standard Precautions include eye protection that is appropriate to the anticipated spray or splash 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 procedure masks with integrated eye shields. See Eye Protection: Selection Guidance, below.
- See the PPE Selection Guide below for guidance on selecting the appropriate PPE for an activity.

**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 local operations leadership for the community prevalence. 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 100,00 in county population over the past two weeks.
Personal Protective Equipment

- **High community transmission** is defined as more than 100 new cases per 100,000 in total county population over the past two weeks.

As of this publication, nearly all Trinity Health 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. 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+**

Healthcare personnel (includes all colleagues and clinicians) [HCP] working in facilities located in areas with moderate to high community transmission [currently applies to all health 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). 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:**
  - Wear a N95 respirator or equivalent respirator, instead of a procedural mask, for:
    - 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)
    - 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.
    - **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. Continue universal use of a procedural mask (when patient facing) or a cloth face covering (when not patient-facing) for source control is recommended for HCP.
Personal Protective Equipment

• NOTE: currently few if any ministries fall into this category. Check with local incident command or Infection Prevention and Control to determine if or when this may apply.

**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.
  - Direct care team will provide support services like daily cleaning and disinfection of isolation room, waste removal and deliver food trays.
  - EVS will provide discharge/transfer (terminal) cleaning of the room after the patient has been discharged.
  - Observe and adhere to the required number of air changes, if an aerosol-generating procedure was performed prior to discharge.
  - 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.
PPE Selection Guide

Colleagues from National Health Ministries, Physician Offices, or Non-Patient Care Office Settings 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

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

<table>
<thead>
<tr>
<th>Patient Status</th>
<th>Situation</th>
<th>Frequent Hand Hygiene</th>
<th>Gloves</th>
<th>Isolation Gown</th>
<th>Medical Grade Procedure Mask</th>
<th>Face Shield</th>
<th>Glasses or Goggles (see page 20)</th>
<th>PAPR</th>
<th>Eye Protection</th>
<th>Choose One:</th>
<th>Respirator:</th>
<th>Cloth face covering</th>
</tr>
</thead>
<tbody>
<tr>
<td>Areas or Procedures with high risk of exposure to COVID-19</td>
<td>Area with high volume of PUIs or COVID-19+ (ex. Emergency Department, designated testing areas) or Specimen collection from the upper respiratory tract (ex. NP Swab)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>COVID-19+, PUI or Patient who Refuses Testing</td>
<td>Any patient/facing encounter (includes all ancillary services i.e. EVS, PT etc.)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>All Other Patients</td>
<td>Procedures with high risk of COVID-19 Transmission: - Aerosol Generating Procedures (AGPs) ex. Intubation, Nebulizer, Heated High Flow, Bipap. - Surgical procedures with instrumentation of the upper respiratory tract</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Administrative COVID-19 vaccines</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Triage</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Lab work - Blood draws</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Delivering &amp; picking up food/trays</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>PANs colleagues do not enter COVID-19+ rooms</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Transport (patients must be masked during transport)</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Rounding &gt; 6 ft from the patient.</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Registration in a patient room*</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Registration Desk**</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Screening***</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Walking through the hallways</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Non Patient-facing tasks in a shared space</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</td>
<td>✓</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

## Glove Selection Guidance

<table>
<thead>
<tr>
<th>Glove Selection Guide*</th>
<th>Vinyl</th>
<th>Nitrile</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Always follow standard precautions</em></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

## Description

- 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.  
- 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.

## Made From

- Polyvinyl chloride (PVC).
- Synthetic Rubber

## Approved Use Cases (list is not all-inclusive)

### Non-patient care areas:
- Biomed/Clinical Engineering
- Delivery of Food/Nutrition trays/supplements
- 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)
- Facilities (Vinyl gloves are NOT APPROPRIATE for use with corrosive chemicals, even in crisis capacity.)
- Non-invasive imaging/radiology procedures
- Patient registration
- Patient Temperature screening stations
- Transportation

### Direct patient care areas:
- Emergency Department
- Environmental Services
- ICU/CCU
- Home Health/Clinics if working with patients where there is anticipated contact with blood/body fluids or risk of puncture
- Lab
- Laundry
- Med/Surg
- OB/Gyn
- Oncology
- Orthopedics
- Security

## NOT approved for

- Chemotherapy
- Corrosive chemicals

## 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 already implemented other control measures such as:
  - Reducing the number of patients going to the hospital or outpatient settings
  - 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
  - Cohorting patients and HCP
  - Maximizing use of telemedicine

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.
  - 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.

- **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.
  - Use of gloves past their manufacturer-designated shelf life for training activities
    - 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.
  - 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.
  - 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 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.
  - 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 Trinity Health 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 Trinity Health 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: System-wide supply of gowns are in red status, meaning the quantity in our collective inventory is becoming very limited. Therefore, we are requiring the following strategies be deployed:

- Nonsterile, disposable patient isolation gowns, which are used for routine patient care in healthcare settings, are appropriate for use by HCP when caring for patients with suspected or confirmed COVID-19.
- 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 masks 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.
- Switch to a reusable (i.e. washable) gown made of polyester or polyester-cotton fabric. Caregivers need to exercise caution not to touch the outside surface of gown during patient care. Plastic apron, if available, may be worn over reusable gowns. (SEE SAMPLE GOWN CONSERVATION STRATEGY BELOW)
- Discontinue use of cloth gowns in areas where isolation gowns are not required.
- Surgical gowns MUST be preserved and prioritized for surgical and other sterile procedures.
  - Consider implementing reusable, washable, sterile gowns for surgical or other sterile procedures.
- Use of gowns with an expiration beyond the manufacturer-designated shelf life may be considered.
- Coveralls may also be used as a last resort but are best preserved for use in outdoor mobile clinics or other settings where temperature would allow. These coveralls or Tyvek suits can be difficult or uncomfortable to wear in warmer areas.
- Other items that can be considered as a last resort for care of COVID-19 patients as single use. None of these options can be considered PPE, since their capability to protect HCP is unknown. These items include
  - Disposable laboratory coats
  - Reusable (washable) patient gowns
  - Reusable (washable) laboratory coats
  - Disposable aprons
  - Combinations of clothing: Combinations of pieces of clothing can be considered for activities that may involve body fluids and when there are no gowns available:
    - Long sleeve aprons in combination with long sleeve patient gowns or laboratory coats
    - Open back gowns with long sleeve patient gowns or laboratory coats
    - Sleeve covers in combination with aprons and long sleeve patient gowns or laboratory coats
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:
  - Personal eyeglasses or contact lenses.
  - Clip on side shields.

Selection Guidance

<table>
<thead>
<tr>
<th>Goggles or Glasses</th>
<th>Face Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sample Image</strong></td>
<td><img src="image" alt="Face Shield" /></td>
</tr>
</tbody>
</table>

**Eye Protection Selection Guide**

*Always follow standard precautions

**NOTE:** If the eye protection interferes with your ability to safely care for the patient, you must STOP USE and identify an alternative.

<table>
<thead>
<tr>
<th>Selection Guidance</th>
<th>Goggles or Glasses</th>
<th>Face Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a colleague is unable to complete a seal check on their respirator while wearing goggles or glasses, they must wear a face shield.</td>
<td>Goggles or Glasses</td>
<td>Face Shield</td>
</tr>
<tr>
<td>If the face shield interferes with the colleague’s vision or ability to provide care, the colleague may use goggles or glasses as pictured in the image to the left above.</td>
<td>Goggles or Glasses</td>
<td>Face Shield</td>
</tr>
</tbody>
</table>

**Approved Use Cases**

<table>
<thead>
<tr>
<th>Goggles or Glasses</th>
<th>Face Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>All patient encounters with minimal chance of blood/bodily fluid exposure, regardless of COVID status. As a reminder, <strong>colleagues who wish to procure their own eye protection</strong> must adhere to the standards set forth in this document.</td>
<td>All patient facing care with likelihood of blood/bodily fluid exposure.</td>
</tr>
<tr>
<td>The face shield is preferred for use of an N95 respirator as it provides the respirator protection against splashes and sprays.</td>
<td>Goggles or Glasses</td>
</tr>
</tbody>
</table>

**Key Attributes**

<table>
<thead>
<tr>
<th>Goggles or Glasses</th>
<th>Face Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>All eye protection must fit snugly from the corners of the eyes across the brow and provide side protection that wraps far enough around the temple to protect the eyes from splashes or sprays.</td>
<td>Goggles or Glasses</td>
</tr>
</tbody>
</table>

**Hand Hygiene**

<table>
<thead>
<tr>
<th>Goggles or Glasses</th>
<th>Face Shield</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand hygiene must always be completed prior to donning or doffing any type of eye protection.</td>
<td>Goggles or Glasses</td>
</tr>
</tbody>
</table>
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 Trinity Health 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

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

Elastomeric Respirators
Elastomeric respirators must be colleague specific. 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.

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. “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"

How to Wear a Procedure Mask

1. Wash your hands with soap and water for 20-30 seconds or perform hand hygiene with alcohol-based hand rub before touching the face mask.

2. Check the new mask to make sure it’s not damaged.

3. Ensure colour side of the mask faces outwards.

4. Locate the metallic strip. Place it over and mould it to the nose bridge.

5. Place an ear loop around each ear or tie the top and bottom straps.

6. Cover mouth and nose fully, making sure there are no gaps. Pull the bottom of the mask to fully open and fit under your chin.

7. Press the metallic strip again to fit the shape of the nose. Perform hand hygiene.

8. Do not touch the mask while using it, if you do, perform hand hygiene.

9. Replace the mask if it gets wet or dirty and wash your hands again after putting it on. Do not reuse the mask.

Removing the Mask

1. Perform hand hygiene.

2. Do not touch the front of your mask. Lean forward, gently remove the mask from behind by holding both ear loops or tie.

3. Discard the mask in a waste container.

4. Perform hand hygiene.

Respiratory Protection Optimization

System-wide supply of N95 respirators and procedural and surgical masks varies frequently by health ministry and across the System. This is dependent on raw material used to make these and this continues to be unstable on a global level. Therefore, we are requiring the following general strategies be deployed, as well as PPE-specific guidance:

- **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**: Reception, registration or other colleagues can provide cloth face coverings or other appropriate respiratory protection to patients or visitors upon request.

- 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 provision of operative procedures
  - During care activities where splashes and sprays are anticipated (source here)

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

---

**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 Conservation

- N95 respirators are to be reserved for the scenarios outlined above in the PPE Selection Guide and other guidance in this document. Reuse and extended use of the N95 respirator or reprocessing using a ministry approved method(s) is critical.
  - **NOTE:** Facilities must not implement re-use and reprocessing of the same respirators. Respirators are to be conserved using only a single strategy.
- 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.
- 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.
- Colleagues must achieve a fit seal to use the respirator.
- Elastomeric or filtering face piece respirators (including standard N95 respirators and 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.
- **Extended Use/Continuous**: refers to the practice of wearing the same N95 respirator for repeated close contact encounters with several different patients, without removing the respirator between patient encounters.
  - Protect N95 respirators with a face shield as much as possible. If a face shield is not available, wear other available eye protection.
  - Disinfect face shields after removing and before re-donning
- **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
• See Rotation Schedule for Reuse of Multiple N95 Respirators

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 crisis levels of supply shortages, 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 web site 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.
  o If feasible, fit test personnel who have not previously been fit tested to the model, make and size of N95 respirator provided prior to 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 patient care are to enter the room of a patient under investigation (PUI) or confirmed COVID-19.
• Assure personnel perform seal check (for proper seal of the N95 respirator) prior to each use. If the colleague cannot achieve a seal:
  o See a PPE Coach or your supervisor. They will assess whether the respirator is damaged or faulty.
    ▪ If the respirator is not damaged or faulty, but the colleague cannot achieve a seal, the coach or supervisor will send the respirator for reprocessing following local ministry guidelines.
    ▪ 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.
    This applies to all N95 respirators.
  o When needed, the PPE Coach or supervisor 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.
  o 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.
  o 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 donning, 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.
  o Ministries that have no touch disinfection (NTD) devices (e.g. ultraviolet germicidal irradiation used for whole room supplemental disinfection) can use this equipment for disinfection of N95 respirators.
    ▪ 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. Documentation for each of these processes and vendors is available in the Personal Protective Equipment (PPE) site on Pulse.
  o 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.
  o 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.
  o 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 Trinity Health 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 THEIR 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 Trinity Health Employee Incident Report (THERE) 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 an N95 Respirator

---

**EQUIPMENT**

**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
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 Trinity Health 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</th>
<th>Sub Type</th>
<th>Disinfection Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face Shields</td>
<td></td>
<td>Disposable or Reusable</td>
<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. 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>Goggles /Eye Protection</td>
<td></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>Reusable Gowns</td>
<td></td>
<td></td>
<td>Gowns must be laundered according to local policy.</td>
</tr>
<tr>
<td>Gloves</td>
<td></td>
<td>Vinyl and Nitrile</td>
<td>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</td>
</tr>
</tbody>
</table>
### N95 Respirators

If the respirator can be reprocessed, follow your ministry’s reprocessing procedure. For additional information regarding your local reprocessing program:

- Acute care: see your Sterile Processing Department or Supply Chain.
- THAH: See your clinical manager or contact Patient Experience at System Office
- THSC: See your PPE Coordinator
- PACE (Mercy LIFE only): See Senior Behavioral Health Leadership

Consult the manufacturer’s Instructions for Use (IFU) for disinfection.

### Elastomeric Respirators

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.

**Wipe-Down Disinfection (at the end of shift and when soiled):**

- Perform hand hygiene
- Remove the external filters
- Use EPA approved disinfectant and follow the EPA label instructions for the selected disinfectant.
- Wipe down each component (avoid getting the filter media wet):
  - Facepiece (interior and exterior)
  - Head Harness
  - Hardcase filter and/or rigid plastic components of the filter assembly.
- Allow to dry for appropriate dwell time.
- Wipe components again with water to remove residual disinfectant. Air dry before next use
- Store away from contaminated area when not in use
- Perform hand hygiene

### PAPRs

Follow manufacturer's Instructions for Use (IFU) and/or see below:

- Perform hand hygiene, don gloves
- Use EPA approved disinfectant wipe.
- Wipe down the inside and outside of the PAPR hood, including seams.
- Allow to dry for appropriate dwell time.
- Ensure it dries all the way before use.
- If hood is a shroud, turn it completely inside out to dry.
- Perform hand hygiene, doff gloves.

### CAPRs

Follow manufacturer's Instructions for Use (IFU) and/or see below:

Do not immerse the battery, helmet and fan module into water or other liquid. This will cause irreparable damage to the helmet.
<table>
<thead>
<tr>
<th>Do not use solvent or alcohol to clean the helmet.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CAPRs are to be cleaned and disinfected between uses and between different users wearing the system.</strong></td>
</tr>
<tr>
<td><strong>Clean and disinfect with EPA approved disinfectant effective against SARS-CoV-2:</strong></td>
</tr>
<tr>
<td>• Inspect the system and perform any assembly/dis-assembly instructions for disposable items or components that are worn/damaged.</td>
</tr>
<tr>
<td>• Clean and disinfect all outside reachable surfaces and then over all inside surfaces. Observe dwell times.</td>
</tr>
<tr>
<td>• Let air dry and re-assemble or place in storage.</td>
</tr>
</tbody>
</table>
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

**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.

**MDI** = metered dose inhaler

**Filtering Facepiece Respirators (FFRs)** = refers to 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**
  - **PAPR** = powered air purifying respirator

**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.
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 Emergence 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>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>138</td>
<td>276</td>
<td>414</td>
</tr>
<tr>
<td>2</td>
<td>69</td>
<td>138</td>
<td>207</td>
</tr>
<tr>
<td>3</td>
<td>46</td>
<td>92</td>
<td>139</td>
</tr>
<tr>
<td>4</td>
<td>35</td>
<td>69</td>
<td>104</td>
</tr>
<tr>
<td>5</td>
<td>20</td>
<td>55</td>
<td>83</td>
</tr>
<tr>
<td>6</td>
<td>23</td>
<td>46</td>
<td>69</td>
</tr>
<tr>
<td>7</td>
<td>20</td>
<td>39</td>
<td>59</td>
</tr>
<tr>
<td>8</td>
<td>17</td>
<td>35</td>
<td>52</td>
</tr>
<tr>
<td>9</td>
<td>15</td>
<td>31</td>
<td>46</td>
</tr>
<tr>
<td>10</td>
<td>14</td>
<td>28</td>
<td>41</td>
</tr>
<tr>
<td>11</td>
<td>13</td>
<td>25</td>
<td>38</td>
</tr>
<tr>
<td>12</td>
<td>12</td>
<td>23</td>
<td>35</td>
</tr>
<tr>
<td>13</td>
<td>11</td>
<td>21</td>
<td>32</td>
</tr>
<tr>
<td>14</td>
<td>10</td>
<td>20</td>
<td>30</td>
</tr>
<tr>
<td>15</td>
<td>9</td>
<td>18</td>
<td>28</td>
</tr>
<tr>
<td>16</td>
<td>9</td>
<td>17</td>
<td>26</td>
</tr>
<tr>
<td>17</td>
<td>8</td>
<td>16</td>
<td>24</td>
</tr>
<tr>
<td>18</td>
<td>8</td>
<td>15</td>
<td>23</td>
</tr>
<tr>
<td>19</td>
<td>7</td>
<td>15</td>
<td>22</td>
</tr>
<tr>
<td>20</td>
<td>7</td>
<td>14</td>
<td>21</td>
</tr>
<tr>
<td>25</td>
<td>6</td>
<td>11</td>
<td>17</td>
</tr>
<tr>
<td>30</td>
<td>5</td>
<td>9</td>
<td>14</td>
</tr>
<tr>
<td>35</td>
<td>4</td>
<td>8</td>
<td>12</td>
</tr>
<tr>
<td>40</td>
<td>3</td>
<td>7</td>
<td>10</td>
</tr>
<tr>
<td>45</td>
<td>3</td>
<td>6</td>
<td>9</td>
</tr>
<tr>
<td>50</td>
<td>3</td>
<td>6</td>
<td>8</td>
</tr>
</tbody>
</table>

Preferred reference point for Trinity

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>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/fluid 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 Trinity Health-approved)  |
Examples of aerosol generating procedures

Aerosol Generating Procedures

Procedures performed on patient with known or suspected COVID-19 could generate infectious aerosols.

- CPR
- Sputum induction-not recommended
- Open deep oral suctioning/tracheal suctioning
- Intubation/extubation
- High flow nasal cannula/Airvo
  - An oxygen supply system capable of delivering up to 100% humidified and heated oxygen at a flow rate of up to 60 liters per minute.
- Bipap/CPAP
- Nebulizer treatments
- Bronchoscopy
  - Lab, in support of procedure, can wait outside of room for specimen handoff
- NG Tube placement
- Manual ventilation
- Nasopharyngeal/oral areas-nasotracheal endoscope
- Procedures with a high chance of aerosolization of virions (ie sphenopalatine ganglion block, intraoral injections)
Aerosol Generating Procedure in Process

Authorized Trained Personnel Only

- Keep Door Closed
- PAPR or N95 Respirator + Eye Protection Required During Procedure
- See post-procedure clearance times on reverse

Time Procedure Ended: _________

Time Room is Available: _________
PPE from Other Countries

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."[2]

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 2626-2019
- European Union: EN 140-1999; EN 143-2000; and EN 149-2001
- Japan: JMHJW-2000
- Republic of Korea: KMOEL-2014-46; and KMOEL-2017-64
- Mexico: NOM-116-2009

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.

Source: https://www.osha.gov/memos/2020-04-03/enforcement-guidance-use-respiratory-protection-equipment-certified-under
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 Trinity Health 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.
  - Caregiver grabs reusable gown at the wrist and pulls forward. Do not bunch, bundle, or let the gown touch the floor during doffing.
  - Doff respiratory & eye protection according to existing protocols.
    - Note: The same reusable gown will be worn per person per patient.
- 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.