

## STRATEGIES FOR OPTIMIZING PPE

### N95 RESPIRATORS

Respirators, when required to protect HCP from airborne contaminants such as some infectious agents, must be used in the context of a comprehensive, **written respiratory protection program that meets the requirements of OSHA's Respiratory Protection Plan**. The program should include medical evaluations, training, and fit testing.

**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. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of N95 respirators during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve N95 respirator supplies along the continuum of care.

- **Conventional capacity:** measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and PPE controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **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 HCP. These practices may be used temporarily during periods of expected N95 respirator shortages.
- **Crisis capacity:** strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known N95 respirator shortages.

**Decisions to implement measures in contingency capacity and then crisis capacity should be based on:**

- Consideration of all conventional capacity strategies first.
- The availability of N95 respirators and other types of respiratory protection.
- Consultation with entities that include some combination of: local healthcare coalitions, federal, state, or local public health officials, appropriate state agencies that are managing the overall emergency response related to COVID-19, and state crisis standards of care committees. Even when state/local coalitions or public health authorities can shift resources between health care facilities, these strategies may still be necessary.

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**The following checks should be performed prior to using the respirator:**

- Visually inspect the N95 to determine if its integrity has been compromised.
- Check that components such as the straps, nose bridge, and nose foam material did not degrade, which can affect the quality of the fit, and seal and therefore the effectiveness of the respirator.
- If the integrity of any part of the respirator is compromised, or if a successful user seal check cannot be performed, discard the respirator, and try another respirator.
- Users should perform a user seal check immediately after they don each respirator and should not use a respirator on which they cannot perform a successful user seal check.

**Conventional Capacity Strategies (should be incorporated into everyday practices)**

**Engineering Controls reduce exposures for healthcare personnel (HCP) by placing a barrier between the hazard and the HCP.**

- Place patients with suspected or confirmed COVID-19 in an airborne infection isolation room (AIIR) for aerosol generating procedures.
- Use physical barriers such as glass or plastic windows at reception areas, curtains between patients, etc.
- Properly maintain ventilation systems to provide air movement from a clean to contaminated flow direction.

**Administrative Controls refer to employer-dictated work practices and policies that reduce or prevent hazardous exposures.**

- Limit the number of patients going to hospitals or outpatient settings by screening patients for acute respiratory illness prior to non-urgent care or elective visits.
- Exclude all HCP not directly involved in patient care. (e.g., dietary, housekeeping employees).  
Reduce face-to-face HCP encounters with patients (e.g., bundling activities, use of video monitoring).
- Exclude visitors to patients with known or suspected COVID-19.
- Implement source control: Identify and assess patients who may be ill with or who may have been exposed to a patient with known COVID-19 and recommend they use facemasks until they can be placed in an AIIR or private room.
- Cohort patients: Group together patients who are infected with the same organism to confine their care to one area.
- Cohort HCP: Assign designated teams of HCP to provide care for all patients with suspected or confirmed COVID-19.
- Use telemedicine to screen and manage patients using technologies and referral networks to reduce the influx of patients to healthcare facilities.

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- Train HCP on indications for use of N95 respirators.
- Train HCP on use of N95 respirators (i.e., proper use, fit, donning and doining, etc).
- Implement just-in-time fit testing: Plan for larger scale evaluation, training, and fit testing of employees when necessary during a pandemic.
- Limit respirators during training: Determine which HCP do and do not need to be in a respiratory protection program and, when possible, allow limited re-use of respirators by individual HCP for training and then fit testing.
- Implement qualitative fit testing to assess adequacy of a respirator fit to minimize destruction of N95 respirator used in fit testing and allow for limited re-use by HCP.

**Personal Protective Equipment: Respiratory Protection**

- Use surgical N95 respirators only for HCP who need protection from both airborne and fluid hazards (e.g., splashes, sprays). If needed but unavailable, use faceshield over standard N95 respirator.
- Use NIOSH approved alternatives to N95 respirators such as other disposable filtering facepiece respirators, elastomeric respirators with appropriate filters or cartridges, powered air purifying respirators where feasible.

**Contingency Capacity Strategies (during expected shortages)**

**Administrative Controls**

- Decrease length of hospital stay for medically stable patients with COVID-19 who cannot be discharged to home for social reasons by identifying alternative non-hospital housing.
- Temporarily suspend annual fit testing per interim guidance from OSHA. **Personal Protective Equipment and Respiratory Protection**
- Use N95 respirators beyond the manufacturer-designated shelf life for training and fit testing.
- Extend the use of N95 respirators by wearing the same N95 for repeated close contact encounters with several different patients, without removing the respirator (i.e., recommended guidance on implementation of extended use.

**Crisis Strategies (during known shortages)**

***When N95 Supplies are Running Low***

**Personal Protective Equipment and Respiratory Protection**

- Use respirators as identified by CDC as performing adequately for healthcare delivery beyond the manufacturer-designated shelf life.
- Use respirators approved under standards used in other countries that are similar to NIOSH-approved N95 respirators but that may not necessarily be NIOSH-approved.
- Implement limited re-use of N95 respirators by one HCP for multiple encounters with different patients, but remove it after each encounter.
- Use additional respirators identified by CDC as NOT performing adequately for healthcare delivery beyond the manufacturer-designated shelf life.
- Prioritize the use of N95 respirators and facemasks by activity type with and without masking symptomatic patients.

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***When No Respirators Are Left***

**Administrative Controls**

- Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients (i.e., those of older age, those with chronic medical conditions, or those who may be pregnant).
- Designate convalescent HCP for provision of care to known or suspected COVID-19 patients (those who have clinically recovered from COVID-19 and may have some protective immunity to preferentially provide care).

**Engineering Controls**

- Use an expedient patient isolation room for risk-reduction.
- Use a ventilated headboard to decrease risk of HCP exposure to a patient-generated aerosol.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>

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## **STRATEGIES FOR OPTIMIZING THE SUPPLY OF ISOLATION GOWNS**

**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. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of facemasks during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve facemask supplies along the continuum of care.

- **Conventional capacity**: measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and personal protective equipment (PPE) controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **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 facemask shortages.
- **Crisis capacity**: strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known facemask shortages.

**The following contingency and crisis strategies are based upon these assumptions:**

1. Facilities understand their current isolation gown inventory and supply chain
2. Facilities understand their isolation gown utilization rate
3. 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
4. Facilities have already implemented other engineering and administrative control measures including:
  - 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
5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

### **Conventional Capacity Strategies**

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**Use isolation gown alternatives that offer equivalent or higher protection.**

Several fluid-resistant and impermeable protective clothing options are available in the marketplace for HCP. These include isolation gowns and surgical gowns. When selecting the most appropriate protective clothing, employers should consider all of the available information on recommended protective clothing, including the potential limitations. 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. In times of gown shortages, surgical gowns should be prioritized for surgical and other sterile procedures. Current U.S. guidelines do not require use of gowns that conform to any standards.

**Contingency Capacity Strategies**

Selectively cancel elective and non-urgent procedures and appointments for which a gown is typically used by HCP.

Shift gown use towards cloth isolation gowns.

Reusable (i.e., washable) gowns are typically made of polyester or polyester-cotton fabrics. Gowns made of these fabrics can be safely laundered according to routine procedures and reused. Care should be taken to ensure that HCP do not touch outer surfaces of the gown during care.

- Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles
- Systems are established to routinely inspect, maintain (e.g., mend a small hole in a gown, replace missing fastening ties), and replace reusable gowns when needed (e.g., when they are thin or ripped)

Consider the use of coveralls.

Coveralls typically provide 360-degree protection because they are designed to cover the whole body, including the back and lower legs, and sometimes the head and feet as well. While the material and seam barrier properties are essential for defining the protective level, the coverage provided by the material used in the garment design, as well as certain features including closures, will greatly affect the protective level. HCP unfamiliar with the use of coveralls must be trained and practiced in their use, prior to using during resident care. \*

**Use of expired gowns beyond the manufacturer-designated shelf life for training.**

The majority of isolation gowns do not have a manufacturer-designated shelf life. However, consideration can be made to using gowns that do and are past their manufacturer-designated shelf life. If there is no date available on the gown label or packaging, facilities should contact the manufacturer.

**Use gowns or coveralls conforming to international standards.**

Current guidelines do not require use of gowns that conform to any standards\*\*

**Crisis Capacity Strategies**

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Cancel all elective and non-urgent procedures and appointments for which a gown is typically used by HCP.

### **Extended use of isolation gowns.**

Consideration can be made to extend the use of isolation gowns (disposable or cloth) such that the same gown is worn by the same HCP when interacting with more than one patient known to be infected with the same infectious disease when these patients housed in the same location (i.e., COVID-19 residents residing in an isolation cohort). This can be considered only if there are no additional co-infectious diagnoses transmitted by contact (such as *Clostridioides difficile*) among patients. If the gown becomes visibly soiled, it must be removed and discarded as per usual practices.

### **Re-use of cloth isolation gowns.**

Disposable gowns are not typically amenable to being doffed and re-used because the ties and fasteners typically break during doffing. Cloth isolation gowns could potentially be untied and retied and could be considered for re-use without laundering in between.

In a situation where the gown is being used as part of standard precautions to protect HCP from a splash, the risk of re-using a non-visibly soiled cloth isolation gown may be lower. However, for care of patients with suspected or confirmed COVID-19, HCP risk from re-use of cloth isolation gowns without laundering among (1) single HCP caring for multiple patients using one gown or (2) among multiple HCP sharing one gown is unclear. The goal of this strategy is to minimize exposures to HCP and not necessarily prevent transmission between patients. Any gown that becomes visibly soiled during patient care should be disposed of and cleaned.

### **Prioritize gowns.**

Gowns should be prioritized for the following activities:

- During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures
- During the following high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of healthcare providers, such as:
  - Dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care

Surgical gowns should be prioritized for surgical and other sterile procedures. Facilities may consider suspending use of gowns for endemic multidrug resistant organisms (e.g., MRSA, VRE, ESBL-producing organisms).

### **When No Gowns Are Available**

### **Consider using gown alternatives that have not been evaluated as effective.**

In situation of severely limited or no available isolation gowns, the following pieces of clothing can be considered as a last resort for care of COVID-19 patients as single use. However, none of these options can be considered PPE, since their capability to protect HCP is unknown.

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Preferable features include long sleeves and closures (snaps, buttons) that can be fastened and secured.

- 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 gown, laboratory coats

Reusable patient gowns and lab coats can be safely laundered according to routine procedures.

- Laundry operations and personnel may need to be augmented to facilitate additional washing loads and cycles
- Systems are established to routinely inspect, maintain (e.g., mend a small hole in a gown, replace missing fastening ties) and replace reusable gowns when needed (e.g., when they are thin or ripped)

\* In the United States, the NFPA 1999 standard specifies the minimum design, performance, testing, documentation, and certification requirements for new single-use and new multiple-use emergency medical operations protective clothing, including coveralls for HCP.

\*\* In times of shortages, healthcare facilities can consider using international gowns and coveralls. Gowns and coveralls that conform to international standards, including with EN 13795 and EN14126, could be reserved for activities that may involve moderate to high amounts of body fluids.

## **STRATEGIES FOR OPTIMIZING THE SUPPLY OF FACEMASKS**

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. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of facemasks during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve facemask supplies along the continuum of care.

- **Conventional capacity**: measures consist of providing patient care without any change in daily contemporary practices. This set of measures, consisting of engineering, administrative, and personal protective equipment (PPE) controls should already be implemented in general infection prevention and control plans in healthcare settings.
- **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 facemask shortages.
- **Crisis capacity**: strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known facemask shortages.

The following contingency and crisis strategies are based upon these assumptions:

1. Facilities understand their facemask inventory and supply chain
2. Facilities understand their facemask utilization rate
3. 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.
4. Facilities have already implemented other engineering and administrative control measures including:
  - Reducing the number of patients going to the hospital or outpatient settings
  - Excluding HCP not essential for patient care from entering their care area
  - 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

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5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

### **Conventional Capacity Strategies**

Use facemask according to product labeling and local, state, and federal requirements.

### **Contingency Capacity Strategies**

Selectively cancel elective and non-urgent procedures and appointments for which a facemask is typically used by HCP.

Remove facemasks for visitors in public areas.

Healthcare facilities can consider removing all facemasks from public areas. Facemasks can be available to provide to symptomatic patients upon check in at entry points. All facemasks should be placed in a secure and monitored site.

Implement extended use of facemasks.

Extended use of facemasks is the practice of wearing the same facemask for repeated close contact encounters with several different patients, without removing the facemask between patient encounters.

- The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.
- HCP must take care not to touch their facemask. If they touch or adjust their facemask they must immediately perform hand hygiene.
- HCP should leave the patient care area if they need to remove the facemask.

Restrict facemasks to use by HCP, rather than patients for source control.

Have patients with symptoms of respiratory infection use tissues or other barriers to cover their mouth and nose.

### **Crisis Capacity Strategies**

Cancel all elective and non-urgent procedures and appointments for which a facemask is typically used by HCP.

Use facemasks beyond the manufacturer-designated shelf life during patient care activities.

If there is no date available on the facemask label or packaging, facilities should contact the manufacturer. The user should visually inspect the product prior to use and, if there are concerns (such as degraded materials or visible tears), discard the product.

### **Implement limited re-use of facemasks.**

Limited re-use of facemasks is the practice of using the same facemask by one HCP for multiple encounters with different patients but removing it after each encounter. As it is unknown what the potential contribution of contact transmission is for SARS-CoV-2, care should be taken to

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ensure that HCP do not touch outer surfaces of the mask during care, and that mask removal and replacement be done in a careful and deliberate manner.

- The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.
- Not all facemasks can be re-used.
  - Facemasks that fasten to the provider via ties may not be able to be undone without tearing and should be considered only for extended use, rather than re-use.
  - Facemasks with elastic ear hooks may be more suitable for re-use.
- HCP should leave patient care area if they need to remove the facemask. Facemasks should be carefully folded so that the outer surface is held inward and against itself to reduce contact with the outer surface during storage. The folded mask can be stored between uses in a clean sealable paper bag or breathable container.

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**Prioritize facemasks for selected activities such as:**

- For provision of essential surgeries and procedures
- During care activities where splashes and sprays are anticipated
- During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable
- For performing aerosol generating procedures, if respirators are no longer available

**When No Facemasks Are Available, Options Include**

Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients\*

Designate convalescent HCP for provision of care to known or suspected COVID-19 patients. It may be possible to designate HCP who have clinically recovered from COVID-19 to preferentially provide care for additional patients with COVID-19. Individuals who have recovered from COVID-19 infection may have developed some protective immunity, but this has not yet been confirmed.

Use a face shield that covers the entire front (that extends to the chin or below) and sides of the face with no facemask.

Consider use of expedient patient isolation rooms for risk reduction.

Portable fan devices with high-efficiency particulate air (HEPA) filtration that are carefully placed can increase the effective air changes per hour of clean air to the patient room, reducing risk to individuals entering the room without respiratory protection\*\*

Consider use of ventilated headboards

NIOSH has developed the ventilated headboard that draws exhaled air from a patient in bed into a HEPA filter, decreasing risk of HCP exposure to patient-generated aerosol. This technology

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consists of lightweight, sturdy, and adjustable aluminum framing with a retractable plastic canopy. The ventilated headboard can be deployed in combination with HEPA fan/filter units to provide surge isolation capacity within a variety of environments, from traditional patient rooms to triage stations, and emergency medical shelters.

**HCP use of homemade masks:**

In settings where facemasks are not available, HCP might use homemade masks (e.g., bandana, scarf) for care of patients with COVID-19 **as a last resort**. However, homemade masks are not considered PPE, since their capability to protect HCP is unknown. Caution should be exercised when considering this option. Homemade masks should ideally be used in combination with a face shield that covers the entire front (that extends to the chin or below) and sides of the face.

\* During severe resource limitations, consider excluding HCP who may be at higher risk for severe illness from COVID-19, such as those of older age, those with chronic medical conditions, or those who may be pregnant, from caring for patients with confirmed or suspected COVID-19 infection.

\*\* NIOSH has developed guidance for using portable HEPA filtration systems to create expedient patient isolation rooms. The expedient patient isolation room approach involves establishing a high-ventilation-rate, negative pressure, inner isolation zone that sits within a “clean” larger ventilated zone.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>

## **STRATEGIES FOR OPTIMIZING THE SUPPLY OF EYE PROTECTION**

**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. While there are no commonly accepted measurements or triggers to distinguish surge capacity from daily patient care capacity, surge capacity is a useful framework to approach a decreased supply of facemasks during the COVID-19 response. Three general strata have been used to describe surge capacity and can be used to prioritize measures to conserve facemask supplies along the continuum of care.

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- **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 facemask shortages.
- **Crisis capacity**: strategies that are not commensurate with U.S. standards of care. These measures, or a combination of these measures, may need to be considered during periods of known facemask shortages.

**The following contingency and crisis strategies are based upon these assumptions:**

1. Facilities understand their eye protection inventory and supply chain
2. Facilities understand their eye protection utilization rate
3. 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
4. Facilities have already implemented other engineering and administrative control measures including:
  - Reducing the number of patients going to the hospital or outpatient settings
  - Excluding HCP not essential for patient care from entering their care area
  - 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
5. Facilities have provided HCP with required education and training, including having them demonstrate competency with donning and doffing, with any PPE ensemble that is used to perform job responsibilities, such as provision of patient care

### **Conventional Capacity Strategies**

Use eye protection according to product labeling and local, state, and federal requirements.

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### **Contingency Capacity Strategies**

Selectively cancel elective and non-urgent procedures and appointments for which eye protection is typically used by HCP.

Shift eye protection supplies from disposable to re-usable devices (i.e., goggles and reusable face shields).

- Consider preferential use of powered air purifying respirators (PAPRs) or full-face elastomeric respirators which have built-in eye protection.
- Ensure appropriate cleaning and disinfection between users if goggles or reusable face shields are used.

Implement extended use of eye protection.

Extended use of eye protection is the practice of wearing the same eye protection for repeated close contact encounters with several different patients, without removing eye protection between patient encounters. Extended use of eye protection can be applied to disposable and reusable devices.

- Eye protection should be removed and reprocessed if it becomes visibly soiled or difficult to see through.
- If a disposable face shield is reprocessed, it should be dedicated to one HCP and reprocessed whenever it is visibly soiled or removed
- Eye protection should be discarded if damaged
- Avoid touching eye protection, if touched or adjusted immediately perform hand hygiene.
- Leave patient care area if they need to remove their eye protection.

### **Crisis Capacity Strategies**

Cancel all elective and non-urgent procedures and appointments for which eye protection is typically used by HCP.

Use eye protection devices beyond the manufacturer-designated shelf life during patient care activities.

If there is no date available on the eye protection device label or packaging, facilities should contact the manufacturer. The user should visually inspect the product prior to use and, if there are concerns (such as degraded materials), discard the product.

Prioritize eye protection for selected activities such as:

- During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures.
- During activities where prolonged face-to-face or close contact with a potentially infectious patient is unavoidable.

Consider using safety glasses (e.g., trauma glasses) that have extensions to cover the side of the eyes.

Exclude HCP at higher risk for severe illness from COVID-19 from contact with known or suspected COVID-19 patients.

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*This policy and procedure is not intended to replace the informed judgment of individual physicians, nurses or other clinicians nor is it intended as a statement of prevailing community standards or minimum standards of practice. It is a suggested method and technique for achieving optimal health care, not a minimum standard below which residents necessarily would be placed at risk.*

- During severe resource limitations, consider excluding HCP who may be at higher risk for severe illness from COVID-19, such as those of older age, those with chronic medical conditions, or those who may be pregnant, from caring for patients with confirmed or suspected COVID-19 infection.

### **Selected Options for Reprocessing Eye Protection**

*Adhere to recommended manufacturer instructions for cleaning and disinfection.*

When manufacturer instructions for cleaning and disinfection are unavailable, such as for single use disposable face shields, consider:

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.
2. Carefully wipe the *outside* of the face shield or goggles using a wipe or clean cloth saturated with EPA-registered hospital disinfectant solution.
3. Wipe the outside of face shield or goggles with clean water or alcohol to remove residue.
4. Fully dry (air dry or use clean absorbent towels).
5. Remove gloves and perform hand hygiene.

<https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/face-masks.html>