

## **PPE Optimization Strategies for Isolation Gowns**

Below are a series of strategies or options to optimize supplies of isolation gowns in healthcare settings when there is limited supply. The strategies assume healthcare personnel (HCP) are managing within the surge capacity framework as outlined by the CDC. It also assumes providers are operating outside the conventional capacity framework and are following strategies within either the contingency capacity or crisis capacity framework.

### 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 patient care.

In the United States, the NFPA 1999 standard external icon 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.

### **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. 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.

Crisis Capacity Strategies:

**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 patients 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 practicespdf icon](#).

**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, Options Include:

**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. 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 gowns or 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)

*CDC Guidelines as of March 29, 2020*