



# Coronavirus COVID-19

BC Centre for Disease Control | BC Ministry of Health



## HOW YOU CAN SLOW THE SPREAD OF COVID-19

### Take care of others by taking care of yourself.

Wash your hands, don't touch your face, and stay home if you are sick.

### Stay at Home and Physically Distance

Stay at home whenever you can. Maintain 2 meters distance from those outside of your household.

## COVID-19: Personal Protective Equipment Recommendations for Endotracheal Intubation of Suspected or Confirmed COVID-19 Patients in Critical Care and Emergency Departments

May 29, 2020

For intubation of suspected and confirmed COVID-19 patients in acute care facilities, consider the following principles:

- 1) All aspects of intubation, including Bag Valve Mask (BVM) use, are considered **Aerosol Generating Medical Procedures (AGMP)**.
- 2) All intubation team members should don Personal Protective Equipment (PPE) for AGMP (droplet, contact and airborne PPE with fit-tested N95 respirators, face shield or goggles, gloves and gown) before entering the room. <http://www.bccdc.ca/Health-Info-Site/Documents/Respiratory-protection-COVID19.pdf>
- 3) Securing the airway, with a definitive Endotracheal Tube (ETT), is an urgent priority recommended to minimize AGMP risks. Ventilation using BVM should be avoided (or minimized where possible).
- 4) Minimize the number of health-care team members to only those involved in intubation of the patient.

### Definitions

- Confirmed COVID-19 patient – a patient with lab confirmation (PCR NAAT assay) of SARS-CoV-2 virus infection
- Suspected COVID-19 patient – a patient with COVID-19 like symptoms or risk factors for COVID-19 (recent travel outside Canada, close contact of confirmed case, close contact of known outbreak)

Endotracheal intubation is an AGMP which has a high potential risk of exposure to HCW. Some expert groups have proposed supplemental PPE for the person performing or assisting with the intubation<sup>1</sup>. Editorials discussing results of high-fidelity airway simulation scenarios likewise propose supplemental PPE<sup>2</sup>.

These authors have highlighted the potential for wrist and neck contamination in certain circumstances and have proposed modifications to airborne PPE protocols. These have had variable uptake in different jurisdictions and settings in B.C. Neither the B.C. Centre for Disease Control (BCCDC) or the Public Health Agency of Canada (PHAC) recommend supplemental PPE items or modified protocols at this time.

Following consultation with experts in Medical Microbiology, Infection Prevention and Control (IPAC), Emergency Medicine, and Intensive Care, the following guidance is provided to ensure the safety of staff involved in intubation procedures.

<sup>1</sup> <https://link.springer.com/article/10.1007/s12630-020-01673-w>

<sup>2</sup> Can J Anesth/J Can Anesth <https://doi.org/10.1007/s12630-020-01638-z>



## Key Principles for PPE intubation

- 1) The safety of the health care workers (HCW) is the priority
- 2) The greatest risk to the HCW for exposure is during the doffing of the PPE
- 3) Additional PPE must not create undue complexity that may result in unintentional exposure during doffing
- 4) HCWs should be familiar with all PPE worn and become expert in the donning and doffing ideally through practice and simulation
- 5) An independent observer should be present during donning and doffing to prevent errors if available and time permits depending on the urgency.

| PPE for Endotracheal Intubation                                  | Recommendation  | Other Considerations                                                                                                                                                                              |
|------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| N95 mask                                                         | Standard        | Fit testing required                                                                                                                                                                              |
| Gloves                                                           | Standard        | Ensure that gloves cover the cuffs of the gown since the cuffs are not fluid resistant. This may eliminate the concern and need for long cuff gloves. Ensure effective hand hygiene after doffing |
| Gown                                                             | Standard        | Fluid resistant or impermeable                                                                                                                                                                    |
| Goggles or face shield                                           | Standard        | Face shields should be anchored from above                                                                                                                                                        |
| Face shield on top of goggles                                    | Not Standard    | Felt to be unnecessary and may impair visualization                                                                                                                                               |
| Surgical mask over N95                                           | Not recommended | This includes surgical masks with visor as it may interfere with the N95 respirator fit and /or function.                                                                                         |
| Bouffant                                                         | Not Standard    | Are not fluid resistant and may offer limited protection                                                                                                                                          |
| Hood                                                             | Not Standard    | May add increased complexity in donning and doffing                                                                                                                                               |
| Tyvek suits                                                      | Not standard    | May add increased complexity in donning and doffing                                                                                                                                               |
| Double gloves                                                    | Not Standard    | During a pandemic supply may be limited. May increase contamination when doffing.                                                                                                                 |
| Long cuff gloves                                                 | Not Standard    | During a pandemic supply may be limited. Consider if standard gloves do not cover the cuffs of the gown adequately                                                                                |
| Water-resistant surgical adhesive drape attached to face shields | Not Standard    | High fidelity airway simulation shows protection of the anterior neck.<br>May introduce complexity in donning and doffing                                                                         |
| Other drapes towel etc. to cover anterior neck                   | Not Recommended | May expose HCW to contamination during the procedure or doffing                                                                                                                                   |

**Standard:** BCCDC and PHAC recommendations. For use by all HCWs present during an intubation.

**Not Standard:** May be used if endorsed by local IPAC and HCWs have had appropriate training.

**Not Recommended:** Use should be avoided due to added risk to HCWs or unnecessary use of resources.



## Additional Notes

Competency in donning and doffing of all PPE is necessary to ensure appropriate use. Improper use of PPE can increase risk to the HCW.

The PPE donning and doffing resources are best accessed here: <http://www.bccdc.ca/health-professionals/clinical-resources/covid-19-care/infection-control/personal-protective-equipment>

If showers are available, HCWs leaving the immediate confirmed COVID-19 patient clinical area (hot zone) after intubation may consider showering before proceeding to care for other patients. This may reduce concerns over contamination of the neck.

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