

COVID-19 Information

March 24, 2020

Disclaimer: Please refer to the Spectrum App (under development) for the most updated recommendations.

Considerations at Time of Admission

- Review guidelines for donning and doffing PPE (posters attached below)
<https://www.albertahealthservices.ca/info/Page6422.aspx>
- Review need for N95 (only for aerosol generating medical procedures below):

Sputum induction	Intubation / Open ET suctioning
Nebs / aerosolized medication administration	CPR
Open respiratory/airway suctioning	Tracheostomy care
Bi-level Positive Airway Pressure (BiPAP, CPAP)	Bronchoscopy
Humidified high flow O2 (ARVO, Optiflow)	High freq oscillatory ventilation

*The following procedures have not been shown to generate aerosols that increase transmission risk:
Nasopharyngeal (NP) swabs, NP aspirates, chest physiotherapy

- Is the patient at risk of requiring ICU care?
 - Median age 60, comorbidities (DM, CAD), elevated RR or severe hypoxia, ARDS, development of lung infiltrates in >50% of lung fields within 24-48 hrs
- Review COVID Admission Service Flow Chart
- Double check completion of NP swab
 - Note: The COVID-19 result is reported separate from the respiratory virus panel**
- Assess for other potential causes of respiratory failure
 - Secondary bacterial pneumonia
 - Other causes of pneumonia (other viral, aspiration, etc...)
 - Pulmonary embolism
 - Decompensated heart failure
- Initial management with oseltamivir & antibiotics (secondary bacterial pneumonia)-see below
 - Reassess need for oseltamivir based on NP swab results.
Note: 20% have a coinfection (so wait until COVID-19 swab returns)
 - If NP swab negative for COVID-19 (SARS-CoV-2) and high risk, repeat swab (speak with ID)

While admitted

- Re-assess IV fluids, use **conservative fluid strategies** (small boluses over infusions)
- Start empiric early antimicrobials for secondary bacterial pneumonia-see below
- Monitor for respiratory decompensation and involve ICU early
 - Patients with COVID-19 may become unwell very quickly
 - Monitor with National Early Warning Score (NEWS)2 – available on MDCalc

- Radiographic findings are non-specific. Viral testing remains the ONLY specific method of diagnosis (American College of Radiology Recommendations, updated March 22, 2020). Ground-glass opacities may be seen on CT although CT scanning should be limited unless PE (or the need to rule out other conditions) is a strong consideration.
- Assess for other signs of critical illness including septic shock and AKI
- Involve ICU if SpO₂ < 93% on at least 6L O₂ by nasal prongs, RR > 30/min, HR > 120/min, or any signs of organ failure
- Follow contact & droplet isolation procedures, and pay attention to donning/doffing PPE
- Reduce frequency of vital signs if patient is stable (reduce exposures and preserve PPE)

Acutely deteriorating patient on the ward (respiratory failure, shock, multi-organ dysfunction)

- Activate Code 66/code blue if applicable
- Code 66 criteria include: threatened airway, RR < 8 or RR > 30, sats < 90% despite O₂ > 5 L/min, GCS drop of 2 or more points, sudden decrease LOC, prolonged or repeated seizures, acute change in urine output of < 50cc over 4 hrs
- Ensure the following available while awaiting the code 66/code team: ABCs, IV access, recent set of vitals, initial labs (CBC, lytes, creat, glucose, extended lytes, liver panel, trop, ECGs), consider ABG, CXR
- If requires volume support: use small boluses 250 cc-500 cc boluses
- In hypoxemic respiratory failure, apply nasal prongs or non-rebreather masks.
- Change to NPO
- Please note that as soon as humidified oxygen/heaters used, BiPAP, CPAP, nebulizers, optiflow or bag valve masks are used, these are AGMPs and will require N95s

Discharge planning

- Average time to recovery for hospitalized patients is 17 days
- Home oxygen can be considered to facilitate discharge and no longer requires an ABG
- Patient should maintain social distancing for 14 days from symptom onset
- Remind patient to follow appropriate hand hygiene protocols
- Ask patient to arrange follow-up with family doctor in 2 weeks
- Remind patient to call 811 with any questions

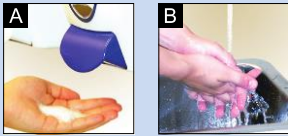
Review Article: <https://jamanetwork.com/journals/jama/fullarticle/2762996>

International Pulmonologist's Consensus on COVID-19:

<https://www.unah.edu.hk/dmsdocument/9674-consenso-internacional-de-neumologos-sobre-covid-19-version-ingles>

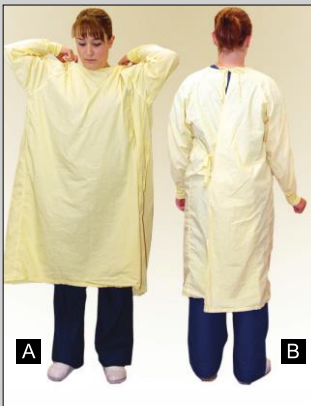
Putting on (Donning) Personal Protective Equipment (PPE)

1 HAND HYGIENE



- A Using an alcohol-based hand rub is the preferred way to **clean your hands**.
- B If your hands look or feel dirty, soap and water **must** be used to wash your hands.

2 Gown



- A Make sure the gown covers from neck to knees to wrist.
- B Tie at the back of neck and waist.

3a Procedure/Surgical mask

- ◆ Secure the ties or elastic around your head so the mask stays in place.
- ◆ Fit the moldable band to the nose bridge. Fit snugly to your face and below chin.

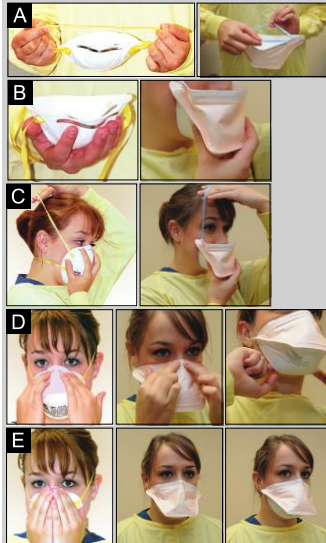


3b N95 respirator

There are different styles of N95 respirators (pictured below). They include: a) molded cup, b) duckbill, c) flat-fold and d) v-fold



All styles have the same basic steps for donning; molded cup and duckbill are pictured below. Refer to the manufacturer for specific donning instructions.



- A Pre-stretch both top and bottom straps before placing the respirator on your face.
- B Cup the N95 respirator in your hand.
- C Position the N95 respirator under your chin with the nose piece up. Secure the elastic band around your head so the N95 respirator stays in place.
- D Use both hands to mold the metal band of the N95 respirator around the bridge of your nose.
- E Fit check the N95 respirator.

4 Eye protection or face shields



- ◆ Place over the eyes (or face).
- ◆ Adjust to fit.

5 Gloves

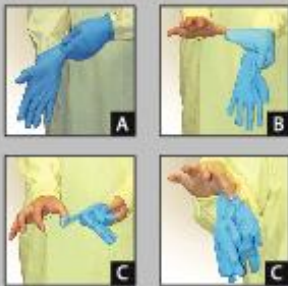


- ◆ Pull the cuffs of the gloves over the cuffs of the gown.

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Taking off (Doffing) Personal Protective Equipment (PPE)

1 Gloves



- A Grasp the outside edge of the glove near the wrist and peel away from the hand, turning the glove inside-out.
- ◆ Hold the glove in the opposite gloved hand.
- B Slide an ungloved finger or thumb under the wrist of the remaining glove.
- C Peel the glove off and over the first glove, making a bag for both gloves.
- ◆ Put the gloves in the garbage.

2 HAND HYGIENE



- A Using an alcohol-based hand rub is the preferred way to clean your hands.
- B If your hands look or feel dirty, soap and water must be used to wash your hands.

3 Gown



- A Carefully unfasten ties.
- B Grasp the outside of the gown at the back of the shoulders and pull the gown down over the arms.
- C Turn the gown inside out during removal.
- ◆ Put in hamper or, if disposable, put in garbage.

4 HAND HYGIENE



- ◆ Clean your hands. (See No. 2)
- ◆ Exit the patient room, close the door and clean your hands again.

5 Eye protection or face shield



- ◆ Handle only by headband or ear pieces.
- ◆ Carefully pull away from face.
- ◆ Put reusable items in appropriate area for cleaning.
- ◆ Put disposable items into garbage.

6 Mask or N95 respirator



- ◆ Bend forward slightly and carefully remove the mask from your face by touching only the ties or elastic bands.
- ◆ Start with the bottom tie, then remove the top tie.
- ◆ Throw the mask in the garbage.

There are different styles of N95 respirators but all styles have the same basic steps for doffing.

7 HAND HYGIENE

- ◆ Clean your hands. (See No. 2)

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