

BWH/MGH Guidelines for the Respiratory Care of Patients on Strict Isolation

These guidelines address respiratory care activities for patients on Strict Isolation (standard + contact + airborne + eye protection) for suspected or confirmed infections due to COVID-19, MERS, Avian Influenza, or SARS, or other pathogens. These guidelines are aimed at minimizing the risk of transmission to healthcare workers and contamination of the environment from respiratory care that generates and disperses aerosols while providing safe and effective patient care.

General Principles

- All aerosol generating procedures (i.e., sputum induction, open suctioning of airways) should be performed cautiously and avoided if possible
- If performed, these procedures should take place in an Airborne Infection Isolation Room (AIIR) under Strict Isolation
- Limit the number of HCP present during the procedure to only those essential for patient care and procedural support.
- Clean and disinfect procedure room surfaces promptly as described in the section on environmental infection control below.

These guidelines will apply to a patient's care as long as they are on standard + airborne + contact + eye protection isolation. Discontinuation will follow hospital policy.

A. Bronchodilator Therapy in Non-Intubated Patients

- Avoid nebulizers whenever possible. Use metered dose inhalers with spacers or dry powder inhalers only.
- For patients unable to take inhalers who require nebulized medications, consider RespirGuard nebulizer equipment.

B. Airway Clearance

- Avoid oscillating positive expiratory pressure devices (e.g., Flutter, Acapella).
- Minimize oral/airway suctioning in a non-intubated patient.

C. Sputum Induction

- Avoid sputum induction if possible.
- If absolutely necessary, ensure all non-essential personnel leave the room and adhere to strict isolation PPE.

D. Oxygen Delivery / Non-Invasive Respiratory Support

- Regular nasal cannula, venturi masks, or non-rebreather masks are preferred.
- Early intubation is favored for patients with progressive respiratory failure.
- If intubation is not an option (e.g. due to ICU capacity), and the patient needs additional support, the primary team will page MICU attending and charge respiratory therapist to discuss case and decide together if additional support is appropriate and safe.
- **The use of high flow nasal cannula is not routinely recommended.**
 - If consensus is to proceed with HFNC then a surgical mask should be placed on the patient's mouth and nose if tolerated to reduce the risk of aerosolization and spread of oral/nasal secretions.
- **The use of non-invasive positive pressure ventilation is not routinely recommended.**

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- If consensus is to proceed with BIPAP then it should be provided with 1) a dual limb circuit, 2) a full face mask that does NOT have an anti-asphyxiation valve or port, and 3) an acute care ventilator or transport ventilator. All inspiratory and expiratory gas should be filtered with a HEPA filter.

E. Mechanical Ventilation

- All inspiratory and expiratory gas should be filtered with a HEPA filter.

F. Bag Mask Ventilation

- During intubation, place a HEPA/HME filter between the bag and the mask
- After endotracheal tube or tracheostomy is in place, place a HEPA filter/HME at the airway between the resuscitation bag and airway.
- For patients with respiratory failure diagnosed with COVID-19, recommend resuscitation bag with attached filter be set up in room at all times

G. End Tidal CO₂ Monitoring

- If necessary, use only mainstream monitoring; avoid sidestream monitoring.

H. Medication Delivery (Invasive and Non-Invasive Support)

- Due to the increased risk of exposure when opening a circuit, the initial set up of the circuit should include nebulizer for be set up for medication delivery on the dry side of the inspiratory limb to decrease aerosol exposure.

I. Bronchoscopy

- Avoid bronchoscopy whenever possible.
- If absolutely necessary, ensure all non-essential personnel leave the room and adhere to standard + contact + airborne + eye protection PPE.