COVID-19: Aerosol Generating Medical Procedures (AGMP) in Healthcare Settings

PURPOSE

This document provides details about aerosol generating medical procedures (AGMPs), specifically with regard to persons with suspected or laboratory confirmed COVID-19.

RECOMMENDATIONS

In patients with suspect or confirmed COVID-19 infection, AGMPs should only be performed if deemed medically necessary.

When performing an AGMP on a patient with suspected or a laboratory confirmed COVID-19, health care workers (HCWs) are recommended to observe the following:

- Place patient in an airborne infection isolation room (AIIR), sometimes referred to as a negative pressure room, if one is available on the unit. If an AIIR is unavailable, the AGMP should be carried out in a single patient room with the door closed.
    - If a single room is not available the AGMP may be performed in a semi-private room with a patient currently COVID positive or one who has recovered from COVID-19 in the previous 60 days.
- Limit the number of HCWs in the room to only those required for the procedure.
- HCWs performing or assisting with the AGMP wear appropriate personal protective equipment (PPE).
    - PPE required for an AGMP includes a long sleeved gown, gloves, a fit-tested N95 respirator, and full-face protection (i.e. full-face shield/visor). Face shield/visor must be cleaned and disinfected after use or discarded.
- HCWs should perform hand hygiene before putting on, and during and after removing PPE, and after exiting the patient care space.
    - Observe appropriate procedures for putting on and removing PPE. If the N95 respirator is to be removed (i.e., is NOT extended use), it is removed after leaving the patient care space and discarded into a waste receptacle.
- If no additional AGMPs are anticipated for the patient, the patient may be transferred back to a regular patient care room and managed using Droplet & Contact precautions.
- In the event that a patient remains in the room where the AGMP was performed and is not transferred to another patient care space, the N95 respirator must be worn for sufficient time after the AGMP for the air to be cleared of aerosolized microorganisms. The length of time is dependent on the level of ventilation in the room (i.e. the number of air changes per hour in the space).
- Refer to organizational Airborne Precautions policy & guidance below for details on precautions and air changes/hour.
    - NSH: IPC-RP-025 Airborne Precautions
    - IWK: IWK Policy IC301.2 Application of Additional Precautions and Negative Pressure Room List
    - PHAC Routine Practices and Additional Precautions for Preventing the Transmission of Infection in Healthcare Settings (p.184) provides a detailed table outlining air changes per hour and time in minutes required for removal efficiencies of 90%, 99% and 99.9% of airborne contaminants.
    - After sufficient time has passed (to remove 99.9% of airborne contaminants), with no further AGMPs performed, Droplet & Contact precautions can be resumed.
- If the patient will be transferred after the AGMP back to a patient room, the AIIR/patient care space in which an AGMP has been performed must remain vacant until the appropriate time has lapsed to complete airborne clearance before cleaning & disinfection, and then placing another patient in the room.
- Staff performing cleaning and disinfection duties of a space in which an AGMP has been performed must wait until the appropriate air clearance time has elapsed before beginning cleaning and disinfection procedures. Provided that the appropriate air exchange time has lapsed, cleaning and disinfection staff do not require an N95 respirator to enter the room.

AGMPs REQUIRING N95 RESPIRATORY PROTECTION FOR COVID-19
Autopsy involving respiratory tissues
Break in closed ventilation circuit system
Bronchoscopy and Bronchoalveolar lavage
Cardiopulmonary resuscitation (CPR) with bag valve mask ventilation *Note: Chest compressions alone are NOT an AGMP*
Extubation
High frequency oscillatory ventilation
Intubation
Mechanical cough assist device (Mechanical Insufflation Exsufflation (MI-E) *Note: Manual cough assist is NOT considered an AGMP.*
Nasopharyngeal washes, scopes, and aspirates
Nebulized medication administration *Note: Avoid if possible; use of alternatives such as meter-dose inhaler with spacer are preferred- refer to organizational guidance*
Open airway suctioning (e.g. "deep" insertion for nasopharyngeal or tracheal suctioning, NOT inclusive of oral suctioning)
Oxygen therapy as indicated below: Heated, humidified high flow oxygen therapy (HHFLO) (i.e. AIRVO™, OptiFlow™) Oxygen delivered via any route >15 lpm Oxygen delivered via a venturi device (although risk is low, venturi devices deliver high gas flows >15L) *Note: Low flow oxygen (humidified or non-humidified) delivered at ≤15 lpm via nasal prongs, nasal cannula, or non-rebreathing facemask are not considered an AGMP.*
Positive pressure ventilation (Continuous positive airway pressure (CPAP) or Bi-level positive airway pressure (BiPAP)
Sputum induction (i.e. inhalation of nebulized hypertonic saline solution to liquefy and produce airway secretions, NOT natural coughing to bring up sputum)
Tracheotomy or tracheostomy insertion/suctioning/tube change/decannulation *Note: Dressing change, tie change or inner cannula change are not considered an AGMP*

IMPORTANT: For other scenarios not described, please contact your local IPAC team for further direction.

Setting-specific AGMP guidance for NSH Long Term Care is available on the COVID-19 Hub.

Reference:
Alberta Health Services- COVID-19 Aerosol-Generating Medical Procedure Guidance Tool-
https://www.albertahealthservices.ca/topics/Page17091.aspx
Interactive tool which provides guidance on whether procedure is an AGMP or not.