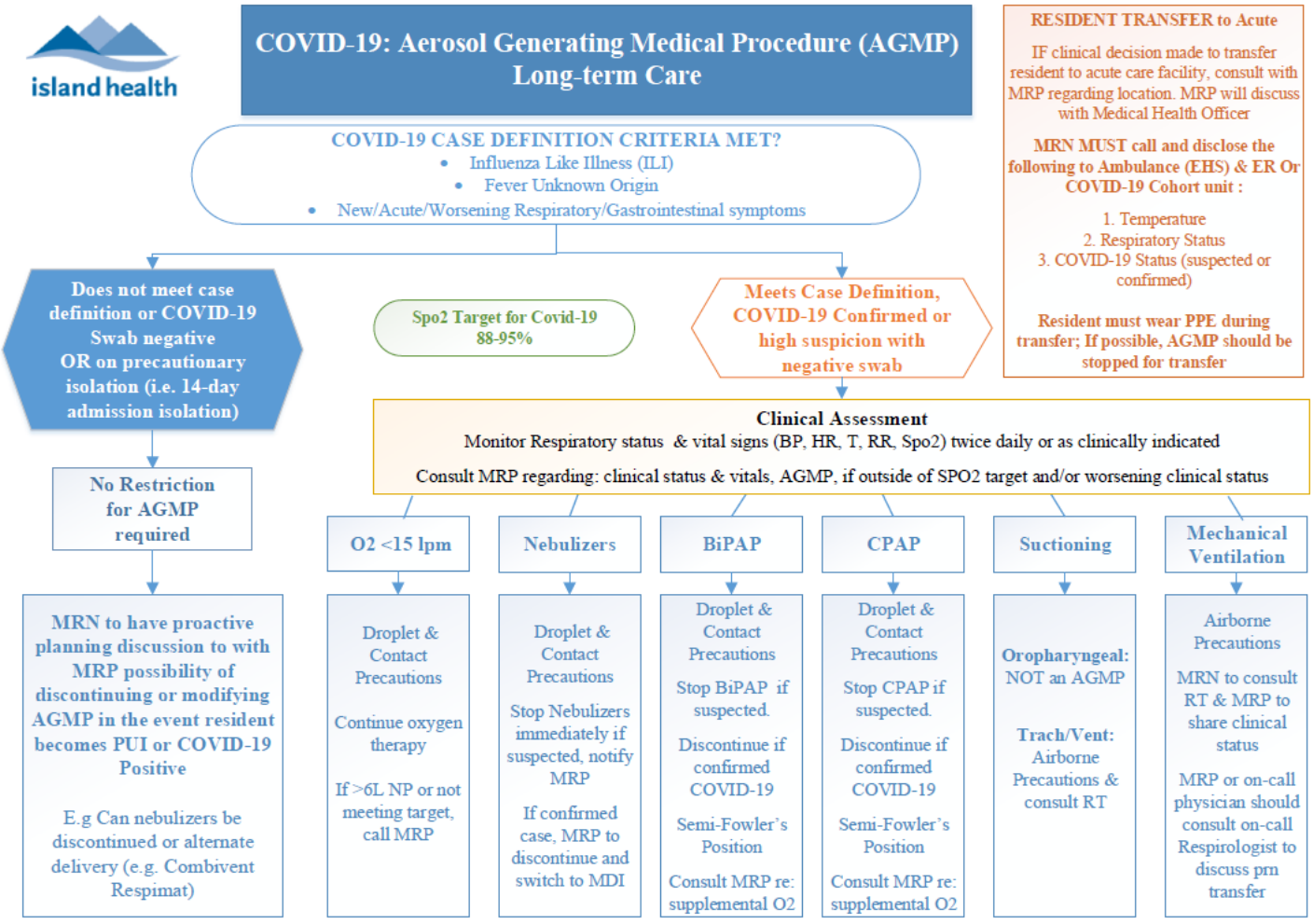
COVID-19 LONG-TERM CARE FACILITY (LTCF): AEROSOL GENERATING MEDICAL PROCEDURES (AGMP)

Site:	Scope:

• Environment
  ○ Long-term Care (affiliate & owned and operated)
  ○ Island-Wide
	• Audience: Charge Nurse, RN/RPN, LPN, HCA, RT, Allied health, Physicians, Managers and Directors of Care (DOC),
	• Indications: LTC Residents with Active AGMPs



Need to know:

- Provide guidance for necessary actions by front line nurses and leaders for residents with suspected and/or confirmed COVID-19, who currently have aerosolizing generating medical procedures (AGMP) in long-term care.

- Front line nurses and leaders will be able to determine appropriate course of action for residents with AGMP in suspected and/or confirmed cases of COVID-19
- In order to reduce risk of COVID-19 and aersolization, all AGMP therapy (BiPAP, CPAP, Nebulizers) should be stopped, should that resident become PUI or COVID-19 positive. If the Most Responsible Provider (MRP) has determined the AGMP to be clinically essential, it would indicate the resident requires isolation under airborne precautions, in a single room with the door closed. Staff would require fit testing and access to N-95 respirators.
- In the event of an outbreak, the AGMP therapy for **ALL residents** should be reviewed and a plan created to stop AGMP therapy, outlining an alternate clinical plan to meet resident need(s).

COVID-19 AGMP LTC Protocol Use

A. PRECAUTIONARY ISOLATION (i.e. 14-day admission isolation)

- Residents who are under admission isolation precautions do not require airborne precautions and can continue BiPAP or CPAP therapies, provided resident remains asymptomatic.

B. NO SUSPICION & DOES NOT MEET CASE CRITERIA: There will be no restriction for oxygen therapy/respiratory support (low flow O2, nebulizers, high flow O2, CPAP/BIPAP) in residents in whom there is **NO clinical suspicion** of COVID-19 OR who have confirmed negative COVID-19 Swabs.

- Consultation with MRP) should be done to determine if alternate course of treatment may be recommended in the event they become PUI or COVID-19 positive
- For example, consideration for changing delivery mechanism for nebulizers may be appropriate as risk may change, particularly if the facility has an outbreak occur.
- MRN or MRP may consult with Pharmacist to determine appropriate alternate formulations.

B. HIGH CLINICAL SUSPICION OF COVID-19 DESPITE NEGATIVE SWAB/significant exposure risk: Given the swab is not 100% sensitive, if there remains a high clinical suspicion of COVID-19 despite a negative test result, the resident should be managed as if they have COVID-19 in **Section C below.**

C. COVID-19 CONFIRMED CASES

- **For resident who are lab-confirmed COVID-19, AGMP therapies should be discontinued or modified. If AGMP deemed clinical essential by MRP, resident would require AIRBORNE ISOLATION PRECAUTIONs in a single room with door closed. All Staff should be fit tested with N-95 for this circumstance.**

- **TRANSFER:** If resident requires transfer to acute care facility, as determined by MRP and MHO, for the transfer:
  - **HOLD AGMP** and ensure resident has adequate PPE.
  - Most Responsible Nurse (**MRN) to consult with MRP regarding transfer to COVID-19 positive Cohort Unit. MRN must do the following:**

- Call Emergency Health Services (EHS)/911 OR Medivan and inform of COVID-19 status (suspected or confirmed), respiratory status, temperature and other vital signs. Let EHS know the person will need to go directly to a COVID-19 positive cohort unit, bypassing ER OR to the ER if medically necessary as discussed by MHO/MRP.
- For those residents on mechanical ventilation, MRN must consult with MRP or on call-physician to consult with on-call Respirologist to discuss transfer and clinical status
- For Transfers of resident exiting facility, MRN to ensure resident is wearing appropriate PPE for droplet & contact precautions: eye protection, mask, gown and gloves
- MRN to Consult with housekeeping to ensure appropriate cleaning in room and along route taken out of the building (i.e. ensuring elevator, railings/corridor are cleaned).

D. MANAGING AGMP IN SUSPECTED AND CONFIRMED COVID-19 CASES IN FACILITY

- **MONITORING:**
  - MRN to perform clinical assessment of resident at initial recognition, twice daily and clinically indicated (or as outlined in the clinical order set)
  - Follow steps outlined in COVID-19 response protocol for initial recognition

- **SPECIFIC AGMP THERAPY MANAGEMENT:**
  - **Low Flow O2 (defined as less than 15L/min by any mechanism):**
    - Place resident on droplet and contact precautions
    - Continue Oxygen Therapy in both suspected and confirmed cases
    - Monitor clinical status and vitals twice daily and as clinically indicated
    - If oxygen demand increasing, >6L, consult with MRP regarding further treatment interventions

  - **Nebulizers:**
    - Place resident on droplet and contact precautions
    - If suspected COVID-19, stop nebulizers immediately and contact MRP regarding change in delivery and/or other treatment options
    - If confirmed COVID-19, nebulizer treatment must be reviewed with MRP to discuss alternatives and/or other treatment options.
    - MRP or MRN may consult with pharmacist around alternate formulations appropriate for resident context.
    - Monitor clinical status and vitals twice daily and as clinically needed
    - These therapies should be held if there is any suspicion of transmission on site until the outbreak is declared over.

  - **BiPAP/CPAP**
    - **ALL RESIDENTS in the Facility:**
      - During an outbreak, any asymptomatic residents or those who are

not close contacts, who have AGMP Therapy, should have their therapy reviewed and stopped. There should be clinical consideration for alternate therapy.

- **COVID-19 Positive or PUI Resident (s):**
  - **Stop BiPAP/CPAP if suspected or confirmed COVID-19 case;** DO NOT INTIATE NOCTURNAL THERAPY
  - Place resident on droplet and contact precautions
  - Encourage appropriate positioning while in bed and sitting (i.e. Semi-fowlers)
  - Monitor clinical status and vitals, particularly Spo2 twice daily and clinically indicated
  - Consult MRP regarding supplemental oxygen and titration to remain within COVID-19 SPO2 Target 88-92%
  - MRP may consider consultation with Respirologist on call regarding alternate therapy options or need for transfer to manage clinical needs

Table 1. Guidelines for Environmental Infection Control in Health-Care Facilities

	Minutes required for removal efficiency†	
ACH	99%	99.9%
2	138	207
4	69	104
6	46	69
12	23	35
15	18	28
20	14	21
50	6	8
400	<1	1

* This table can be used to estimate the time necessary to clear the air of airborne *Mycobacterium tuberculosis* after the source patient leaves the area or when aerosol-producing procedures are complete.
† Time in minutes to reduce the airborne concentration by 99% or 99.9%.

- **For Residents developing symptoms while on therapy** (i.e. while using BiPAP/CPAP):
  - **Place resident on AIRBORNE PRECAUTIONS**
  - Therapy should be stopped
  - The room should be kept clear and airborne precautions be maintained until air clearance has been achieved based on the Air Changes per Hour (ACH).

***Each facility operator should contact the FMO site engineer or FMO representative to determine the ACH. Table 1 can provide guidance regarding the length of time a room should be kept clear based on ACH. If ACH cannot be determined, then a minimum of 180 minutes should be used to help reduce and clear the room of any air contaminants.*

- **Mechanical Ventilation:**
  - Place resident on **airborne precautions**
  - Monitor clinical status and vitals twice daily and as clinically indicated OR as outlined in clinical order set
  - MRN to consult with RT and MRP to review clinical status and obtain further guidance
  - MRP or on-call physician should consult with Respirologist on call regarding any further clinical guidance and/or discussion regarding transfer to acute care
  - **Respiratory therapist may consider additional steps to change airborne to droplet precautions:**

- **Minimize AGMP for mechanically ventilated (via home vent)**
- Change to inline suction catheter
- Turn off humidifier
- Add HMEF pre-expiratory port
- Change to cuffed tracheostomy (MRP Order required)
- Change Ventilator settings to adjust for lack of upper airway leak appropriately
- **Exception: Airborne precaution persist if ventilator circuit is to be disconnected for any reason (change HMEF or suction catheter)**

➢ **Suctioning:**

- Open suctioning of residents with Tracheostomy and/or Mechanical Ventilation:
  - Place resident on airborne precautions
  - Consult Respiratory Therapist
  - Monitor clinical status and vitals twice daily and as clinically indicated OR as outlined in clinical order set

Definitions

- **Aerosol Generating Medical Procedures (AGMP**): These are procedures including but not limited to: Intubation and extubation, Open Suctioning (suctioning an ETT with a closed system is not aerosol generating), High flow O2 (greater than 15 liters/minute (lpm) by any mechanism, Standard CPR with Ventilation (Hands only compression is not considered AGMP) , Nebulized administration of medications, BiPAP, CPAP or high flow nasal oxygen
- **COVID-19 Outbreak:** A COVID-19 related outbreak is defined as: A single case of confirmed COVID-19 in LTCF (resident or staff)
- **Coronaviruses**: are a large family of viruses found mostly in animals. In humans, they can cause diseases ranging from the common cold to more severe diseases such as Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS-CoV).
- **COVID-19:** COVID-19 is the infectious disease caused by the most recently discovered coronavirus. This new virus, SARS-CoV-2, and disease were unknown before the outbreak began in Wuhan, China, in December 2019.
- **Most Responsible Provider (MRP):** Physician, on-call physician (after hours) and/or nurse practitioner assigned to the resident
- **Most Responsible Nurse:** The RN and/or LPN assigned to care for the resident for that given shift

Persons/Groups Consulted:

Medical Health Officer, LTC Medical Director, Communicable Disease Nurse, Infection Control and Prevention, Long-term Care Executive Leadership, Long-term Care Clinical Experts, LTC COVID-19 Practice Council, Respiratory Therapists, Respirology, Industrial Hygiene & Environment

Related Island Health Standards & References

- Island Health (2020): AGMPs and PPE Requirements: Patients Suspected, Confirmed or at RISK of COVID-19
- Island Health (2020): COVID-19 Response Protocol: Long-Term Care Facility (LTCF)
- Island Health (2020): Recommended actions for respiratory support of suspected/confirmed COVID-19 patients
- *BC Center for Disease Control (BCCDC) Long-term Care Facilities & Assisted Living*
- *CDC (2019). Guidelines for Environmental Infection Control in Health-Care Facilities.*