# FACT SHEET

*Intended for emergency department health care providers*

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# Aerosol Generating Medical Procedures

## What is an Aerosol Generating Medical Procedure (AGMP)?

Aerosol-generating medical procedures (AGMPs) are procedures that can generate aerosols when an infected person's airway is manipulated.[1] The risk of SARS-CoV-2 transmission during AGMPs is likely increased as a larger burden of respiratory aerosols are either generated from the infected person or the virus is spread over a greater distance than would occur with natural dispersion patterns.[2]

## What procedures constitute an AGMP?

Currently, there is some debate in the literature as to what constitutes an AGMP. Much of the existing knowledge comes from studies during the severe acute respiratory syndrome (SARS) and H1N1 viral outbreaks or through experimental laboratory studies. Current evidence continues to evolve as SARS-CoV-2 transmission is further studied. **It is important to know what your healthcare authority or institution defines as an AGMP and to follow local guidelines (BC, YK, NWT, AB, SK, NVT, MB, ON, QC, NL, NS, NB, PEI).**

To date, research suggests these procedures are considered aerosol-generating:

- Intubation and associated procedures, such as manual ventilation and **open** endotracheal suctioning*[3,4,5,6]
- Extubation[3,7,8]
- Bag-mask ventilation[3,4,6]
- Non-invasive positive pressure ventilation (continuous or bilevel positive airway pressure)[4,6,9]

These procedures are possibly aerosol-generating (mixed or low-level evidence):

- Use of humidified high-flow oxygenation systems (e.g. AIRVO, Optiflow, etc.)[6]
- Cardiopulmonary resuscitation [9,10,11]
- Nebulized therapy[6,9]
- Tracheotomy[6]
- Sputum induction[4]
- Bronchoscopy[4]

*NB: at this time, oropharyngeal suctioning is not considered an AGMP

## SARS-CoV-2 Transmission

COVID-19 is caused by the SARS-CoV-2 virus. Current evidence shows the virus is primarily spread through close contact with infected respiratory droplets.[14] The virus may be spread through droplet transmission or via direct or indirect contact with mucous membranes. In special settings, the virus may be spread through airborne transmission via respiratory aerosols.[15]

The Children's Hospital Foundation of Manitoba

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# Reducing Risk of Transmission

It is important to be familiar with local infection control and prevention practices at your place of work. As more information becomes available, recommendations may evolve. At this time, national and international guidelines recommend the following strategies to mitigate the risk of transmission when performing AGMPs:[4,12,13,16]

- Only perform AGMPs when medically necessary
- Perform a time out before performing an AGMP to ensure all health care workers in the room are aware an AGMP is being performed and are wearing appropriate airborne personal protective equipment (i.e. eye protection, a fit-tested N95 or equivalent respirator, gown, and gloves)
- Limit the number of personnel to the minimum number required to perform the procedure safely
- Perform AGMPs in an airborne infection isolation room if available, or a private room with the door closed
- When possible, consider having the patient wear a medical mask over simple or high-flow nasal cannula
- Place a viral filter on exhalation ports of nebulizers, bag-valve masks, and ventilators
- Consider using a 2-person technique to maintain an adequate seal when ventilating with a bag-valve mask
- Have the most experienced person perform the procedure
- When intubating, consider using video laryngoscopy to maintain greater distance from the patient, pause chest compressions during this time, and use a cuffed endotracheal tube (inflate the cuff prior to bagging)
- Utilize closed endotracheal suction systems
- If opening the ventilation circuit, clamp the endotracheal tube prior to disconnecting
- Disinfect the room and all equipment after use; follow institutional protocols to allow sufficient clearance time prior to next use.



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