

# Aerosol generating respiratory procedures Commencing resuscitation in ED

This document is intended for patients in NSW emergency departments with **suspected or confirmed COVID-19 infection**.<sup>\*</sup> Airway interventions during basic and advanced life support may result in aerosol generation. Aerosol generating procedures (AGPs) must not be performed on patients with suspected or confirmed COVID-19 infection until all healthcare workers within the treatment space are wearing personal protective equipment (PPE) for contact, droplet and airborne precautions.

Goals of treatment and resuscitation plans should be clearly escalated, communicated and documented as soon as possible after presentation to hospital.

<b>DANGER</b>	<b>Assess safety for self and others.</b> First responder to don PPE for contact and droplet precautions.
<b>RESPONSE</b>	<b>Assess patient response by talk and touch.</b> Signs of life (e.g. chest and limb movement) can be visually assessed from a distance until PPE is available.
<b>SEND FOR HELP</b>	<b>Call local Clinical Emergency Response Systems (CERS) number</b> <b>IMPORTANT:</b> Additional responders to don PPE for contact, droplet and airborne precautions now.
<b>AIRWAY</b>	<b>Opening the airway is not an AGP and can be performed by first responder using contact and droplet precautions.</b> <b>WARNING:</b> Intubation and insertion of a laryngeal mask airway (LMA) are AGPs and should only be performed by an experienced operator trained in use of PPE for airway management. Airborne precautions are required.
<b>BREATHING</b>	<b>Look, but do not listen or feel for breathing.</b> <b>2 person technique to ensure tight mask seal. Bag-valve-mask (BVM) must have viral filter attached. Compression person to gently ventilate 30:2.</b> <b>WARNING:</b> BVM ventilation is an AGP. Airborne precautions are required.
<b>CIRCULATION</b>	<b>WARNING:</b> Chest compressions are potential AGP. Airborne precautions are required.
<b>DEFIBRILLATION</b>	<b>IMPORTANT:</b> Defibrillation is not an AGP. <b>Do NOT delay defibrillation.</b> Defibrillation can precede compressions using contact and droplet precautions.

## Clinical decision making points

Individual goals of care should be discussed for all patients, clearly escalated, communicated and documented by multidisciplinary health teams. This includes consideration of 'not for resuscitation' (NFR) orders, end-of-life wishes and/or advance care directives.

Senior members of the resuscitation team must also consider the most likely outcome of any resuscitation attempt to determine if commencing or continuing CPR will result in overall benefit for the patient. These decisions need to be made in real-time and are best done in consultation with other specialist teams.

## Healthcare worker and patient safety

One responder using contact and droplet precautions should commence resuscitation immediately. All basic life support (BLS) interventions that are not aerosol generating procedures (AGP) should be performed without delay. Early defibrillation of shockable rhythms is extremely important.

Additional responders should wear PPE for contact, droplet and airborne precautions so that all resuscitation interventions (including AGP) can proceed as quickly as possible. PPE should be worn for the duration of the resuscitation event and doffed when exiting the treatment space.

AGP PPE includes contact, droplet and airborne PPE such as, P2/N95 respirator mask, eye protection, goggles or face shield, fluid resistant long-sleeved gown and disposable non-sterile gloves.

The use of hair and shoe coverings should be considered per local health facility policy.

PPE kits for AGP should be available in resuscitation bags and trolleys.

## Avoid exposure to infectious aerosol

Limit the number of healthcare workers in the treatment space at all times. Signs of life can be visually assessed from a distance until PPE is available.

Wherever possible, care should be delivered in a negative pressure or single room, and preference given to use of disposable or dedicated equipment.

Evacuate the area of all other patients, visitors and non-responding staff. Only transport a patient to another location if the risk of contamination during transportation can be mitigated. Post resuscitation, the treatment space should be cleaned per infection control guidelines.

## Oxygen therapy and masks

Oxygen therapy using a Hudson mask (6L/min) or non-rebreather mask (10L/min) is not an AGP and should be used as indicated. Surgical masks contain the spread of droplets and aerosol that may be generated during BLS.

If first responders are concerned about aerosol generation, they may leave an existing surgical mask in place with an oxygen mask applied over the top until additional responders in airborne PPE arrive. Alternatively consideration may be given to covering an oxygen mask as additional protection (e.g. with a surgical mask).

## Additional considerations

Despite limited evidence, consensus suggests that:

- LMA gastric port should be occluded to prevent aerosol spread.
- oxygen should be turned off at the wall when delivering a shock.
- use of bag-valve-mask ventilation should be minimised.

Known or potential AGP that occur commonly during resuscitation and induction include:

- manual ventilation using a bag-valve-mask (BVM)
- open airway suctioning
- chest compressions (potential AGP)
- intubation/insertion of LMA
- high flow O<sub>2</sub> therapy
- nebuliser therapy.

## Reference

[CEC Infection Prevention and Control Guidelines  
Infection Prevention and Control Guidelines for  
Management of COVID-19 in Healthcare Settings](#)

[COVID-19 Infection Prevention and Control Response  
and Escalation Framework](#)

[National COVID-19 Clinical Evidence Taskforce](#)

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