

# Aerosol generating procedures (AGP)

The agreed list of AGP is:

- Intubation, extubation and related procedures such as manual ventilation and open suctioning
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy
- Surgery and post-mortem procedures involving high-speed devices
- Some dental procedures (such as high-speed drilling)
- Non-Invasive Ventilation (NIV) such as Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP)
- High-Frequency Oscillating Ventilation (HFOV)
- High Flow Nasal Oxygen (HFNO), also called High Flow Nasal Cannula
- Induction of sputum

### Note:

- Administration of medication via nebulisation is **not** an APG
- Where AGPs are medically necessary, they should be undertaken in a negative-pressure room, if available, or in a single room with the door closed.
- If AGPs are undertaken in the patient's own room, the room should be decontaminated 20 minutes after the procedure has ended.

# CONFIRMED COVID-19: PERSONAL PROTECTIVE EQUIPMENT (PPE)

Also use for aerosol generating procedures (AGP) for suspected COVID-19 cases

## How to put on PPE (donning)



### Step 1

- Gather the necessary PPE (Thumb looped gown, FFP3 mask, face shield and gloves).
- Plan where to put on and take off PPE.
- Only use FFP3 mask you have been fit-tested for.
- Do you have a buddy?
- Do you know how you will deal with waste?



### Step 2

Put on long sleeve gown with thumb loop.



### Step 3a

Put on FFP3 mask. **Must** be the mask you have been **fit-tested** for. Spectacles should be worn **after** the mask, with the arms **over** the straps.



### Step 3b

Personal fit check.



### Step 4

Put on face shield .



### Step 5

Put on gloves (over cuff).

**A buddy system is recommended to observe for inadvertent contamination, especially during high risk procedures and PPE removal.**

## How to take off PPE (doffing)



### Step 1

- Should be supervised by a buddy who is outside the room.
- Avoid contamination of self, others and the environment.

### Remove gloves and gown in the patient room

- Peel off gown and gloves together, and roll inside out.
- Dispose of gloves and gown safely



### Step 2

Perform hand hygiene with alcohol gel and **leave** the patient room.



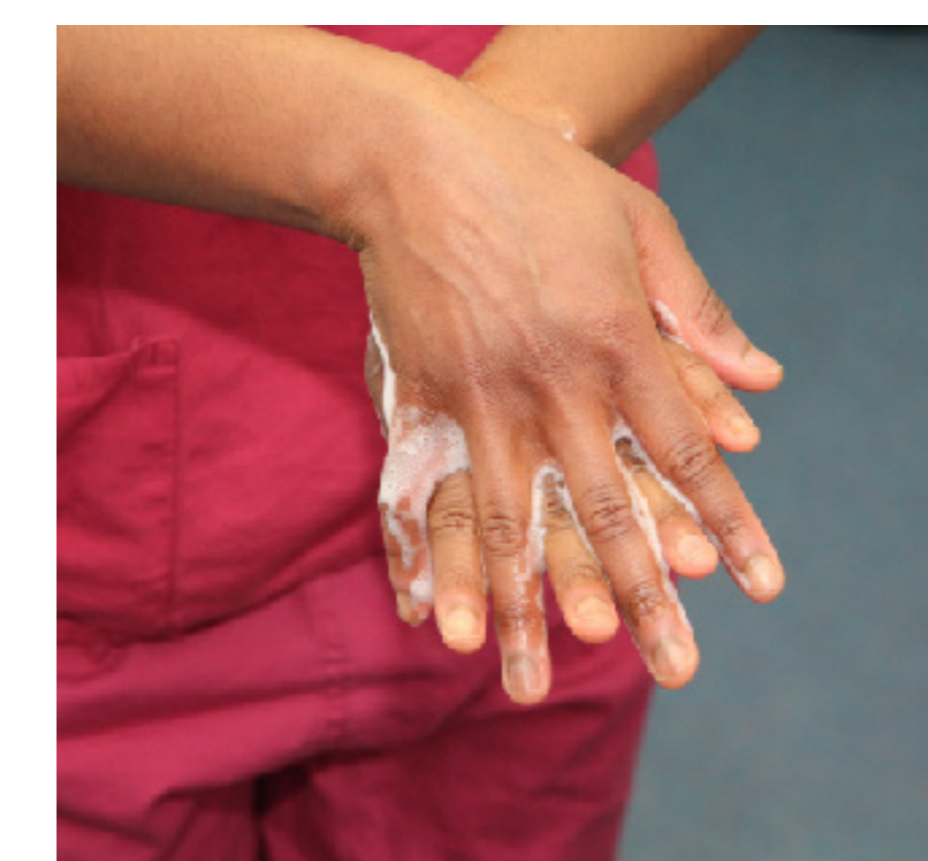
### Step 3a

**Perform hand hygiene again**  
Remove face shield from behind.  
Dispose of safely



### Step 3b

Remove mask from behind, with both hands and dispose in waste bin. If you wear spectacles, your buddy should remove these for you, **before** the mask.



### Step 4

Perform hand hygiene with alcohol gel or soap and water.

**Step 1 & 2**  
**Inside the patient room**

**Step 3 & 4**  
**Outside the patient room or lobby**

# SUSPECTED COVID-19: PERSONAL PROTECTIVE EQUIPMENT (PPE)

For aerosol generating procedures (AGP) of suspected COVID-19 cases, please use action card 8a (Confirmed COVID-19: PPE)

## How to put on PPE (donning)



### Step 1

- Gather the necessary PPE (Plastic apron, surgical face mask or non-fit tested duckbill mask and gloves)
- Plan where to put on and take off PPE.
- Eye-protection is optional: use if there is a risk of body fluids splashing into eyes.
- Do you know how you will deal with waste?



### Step 2

Put on plastic apron.



### Step 3a

Put on surgical face mask or non-fit tested duckbill mask



### Step 3b

Mould mask to face  
Ensure it closely covers nose and mouth



### Step 4

Put on gloves

**A buddy system is recommended to observe for inadvertent contamination, especially during high risk procedures and PPE removal.**

## How to take off PPE (doffing)



### Step 1

- Should be supervised by a buddy who is outside the room.
- Avoid contamination of self, others and the environment.
- Remove gloves using pinch and pull technique and dispose carefully
- Perform hand hygiene with alcohol gel



### Step 2a

Remove apron by breaking at neck and back, touch inside of the apron and roll inside out before disposing.



### Step 2b

Perform hand hygiene and **leave** patient room.



### Step 3

Remove mask from behind, with both hands and dispose in waste bin.



### Step 4

Perform hand hygiene with alcohol gel or soap and water.

Step 1 & 2  
Inside the patient room

Step 3 & 4  
Outside the patient room or lobby

# CONFIRMED COVID-19: FAILED FIT TESTING - PERSONAL PROTECTIVE EQUIPMENT (PPE)

Also use for aerosol generating procedures (AGP) for suspected COVID-19 cases

## How to put on PPE (donning)



### Step 1

- Gather the necessary PPE: Thumb looped gown, Maxair respirator (helmet, battery pack, belt and disposable face shield/lens cuff) and gloves.
- Plan where to put on and take off PPE.
- Do you have a buddy?
- Do you know how you will deal with waste?



### Step 2a

You must be trained to use the Maxair respirator. Plug in Maxair to check battery life and filter is working. Do not use if red or amber light remains on. Clip the battery pack to your belt.



### Step 2b

Attach disposable face shield with front and side snap on mounts. Put on a surgical cap for hygiene. Adjust helmet to fit your head and put it on, the thin film of the face shield goes under your chin.



### Step 3

Put on long sleeve gown with thumb loop. You will need to break the neck loop and tie behind the neck.



### Step 4

Put on gloves (over cuff).

**A buddy system is recommended to observe for inadvertent contamination, especially during high risk procedures and PPE removal.**

## How to take off PPE (doffing)

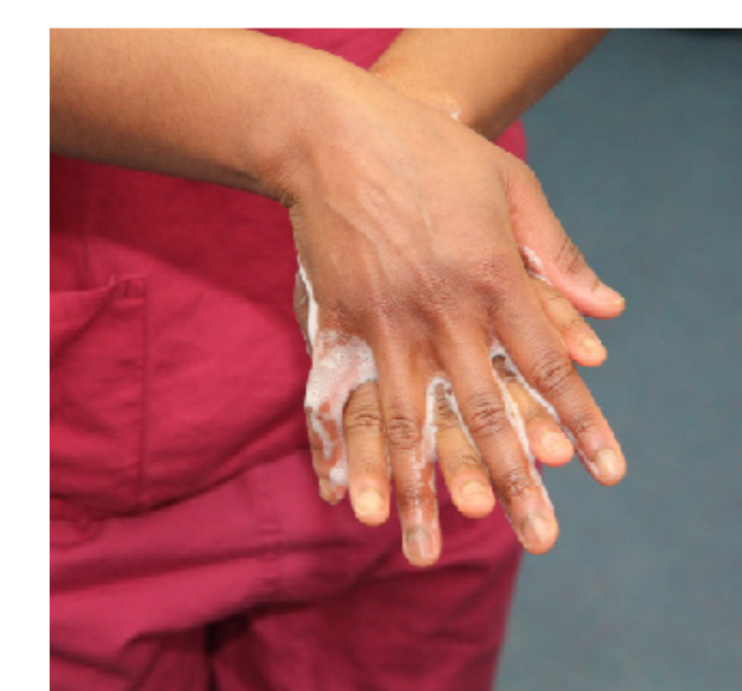


### Step 1

- Should be supervised by a buddy who is outside the room.
- Avoid contamination of self, others and the environment.

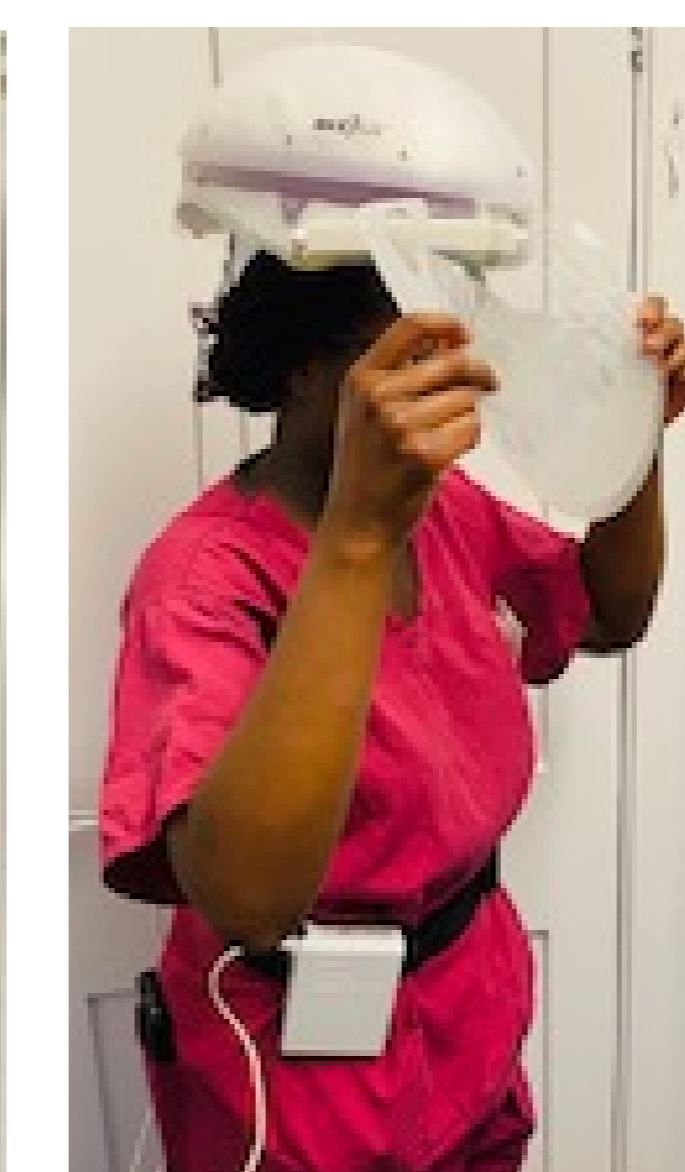
#### Remove gloves and gown in the patient room

- Peel off gown and gloves together, and roll inside out.
- Dispose of gloves and gown safely



### Step 2

Perform hand hygiene with alcohol gel and **leave** the patient room.



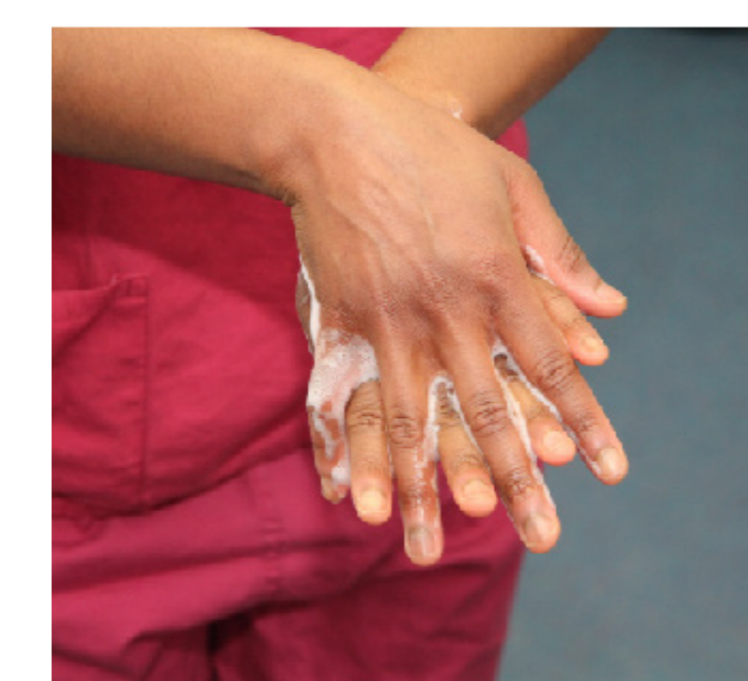
### Step 3a

#### Perform hand hygiene again

Unclip disposable face shield from the sides and then the front  
Dispose of safely

### Step 3b

Remove the helmet, belt and battery pack. Dispose your surgical cap. Clean the Maxair helmet, belt and battery pack with green Clinell wipes



### Step 4

Perform hand hygiene with alcohol gel or soap and water.

Step 1 & 2  
Inside the patient room

Step 3 & 4  
Outside the patient room or lobby

# Preparation for intubation of a COVID-19 patient

**Objective:** Preparation of equipment and staff for intubation of a suspected COVID-19 patient. To be used in conjunction with **ACTION CARD 8: Personal Protective Equipment**

## Pre-intubation

### IN CLEAN ROOM

- 1 Assemble team in clean room**
  - ↳ Hot-room team roles: intubator, anaesthetic assistant
  - ↳ Clean-room team roles: runner, PPE buddy
- 2 Prepare for intubation**
  - ↳ Request COVID airway supplies trolley
  - ↳ Check *intubation equipment list*
  - ↳ Lay out airway equipment and rescue devices on a metal trolley
- 3 Remove personal items e.g. mobile phone from pockets**
- 4 Don and check PPE equipment**
- 5 Move to hot room**
  - ↳ Take ONLY the metal trolley into the hot room
  - ↳ Any additional equipment will be handed through by the runner

## Intubation Equipment List

### Equipment:

- Appropriately sized tracheal tube with subglottic suction
- Airtraq and screen or I-view videolaryngoscope
- Marker pen
- Direct laryngoscope
- Closed suction system
- Tracheal tube clamp
- Mainstream capnograph
- DO NOT USE side-stream gas analyser
- DO NOT USE High Flow Nasal Oxygenation
- DO NOT USE Waters Circuit

### Drugs:

- Induction drugs for RSI
- Emergency drugs e.g. vasopressors
- Maintenance drugs and equipment e.g. TIVA

# Intubation of a COVID-19 patient

**Objective:** Intubation of a suspected COVID-19 patient whilst minimising risk to staff. Only those essential to patient care should enter the room with the patient. To be used in conjunction with **ACTION CARD 8: Personal Protective Equipment**

## Intubation

### IN HOT ROOM

- 1 Apply standard monitoring to patient**
  - ↳ Check HME filter attached to breathing circuit
  - ↳ Check patient positioning for intubation
  - ↳ Check landmarks for front of neck airway and mark cricothyroid membrane
- 2 Check IV access adequate and functional**
- 3 Pre-oxygenate for at least 5 minutes with tight seal on mask**
  - ↳ Consider 5cmH<sub>2</sub>O PEEP
- 4 Give RSI drugs**
  - ↳ if hypoxia low pressure/low volume mask ventilation (two handed technique)
- 5 If intubation successful:**
  - ↳ Perform *post-intubation actions*
- 6 If laryngoscopy difficult:**
  - ↳ Insert iGel and ventilate
  - ↳ Perform *Plan B: Secondary Intubation*
  - ↳ If successful perform *post-intubation actions*
- 7 If cannot ventilate via iGel:**
  - ↳ Attempt low pressure/low volume mask ventilation (two handed technique)
  - ↳ Insert tracheal tube via *front of neck airway*
  - ↳ Perform *post-intubation actions*

## Airway Plans

### Plan A: Primary Intubation

- Laryngoscopy with Airtraq and screen or I-view videolaryngoscope
  - Direct laryngoscopy only if essential

### Plan B: Secondary Intubation

- Load Aintree Intubating Catheter on to Ambu-scope
- Insert Aintree Intubating Catheter via iGel using Ambu-scope
- Remove Ambu-scope and iGel; leave Aintree Intubating Catheter in trachea
- Intubate over Aintree Intubating Catheter
- Remove Aintree Intubating Catheter

### Plan C: Mask ventilation

- Low pressure/low volume mask ventilation
- Two-handed technique to maintain seal

### Plan D: Front of Neck Airway

- Scalpel (size 10 blade)
- Bougie
- Size 6.0 tracheal tube

## Post-intubation Actions

- Connect breathing circuit HME, closed suction, and mainstream capnograph
- Inflate cuff BEFORE ventilation
- Confirm capnography
- Secure tracheal tube with tie
- Check tracheal tube cuff pressure
- If the circuit must be disconnected occlude the tracheal tube with a clamp before detaching, and leave the filter on the patient side
- DO NOT LEAVE THEATRE until 15 minutes have elapsed post-intubation