

Aerosol generating procedures policy.

Westmorland and Furness Care Services

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This policy should be used when performing any Aerosol Generating Procedures (AGP) and specific attention is drawn to guidance around performing AGP on a resident / service user known or suspected to have an acute respiratory infection (ARI)

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Aerosol generating procedures AGP.

1. Introduction

Aerosol generating procedures (AGP) are procedures that generate the production of airborne particles (aerosols) that create potential for airborne transmission. These particles are microscopic and stay in the air longer than standard droplets.

It is essential that staff receive the correct training before undertaking AGPs and are fit tested and can fit check an FFP3 respirator mask prior to performing the task. If these requirements are not in place, then the procedure will be deemed unsafe practice, as there will be an increased risk from infection transmission.

2. Which procedures are considered an AGP?

Following an evidence review commissioned by NHS England and Improvement, the list of procedures which are currently classed as AGPs in relation to COVID-19 and other respiratory infections are:

- awake bronchoscopy (including awake tracheal intubation)
- awake ear, nose, and throat (ENT) airway procedures that involve respiratory suctioning.
- awake upper gastro-intestinal endoscopy.
- dental procedures (using high-speed or high-frequency devices, for example ultrasonic scalers or high-speed drills)
- induction of sputum
- respiratory tract suctioning
- tracheostomy procedures (insertion or removal)
- surgery or post-mortem procedures (like high-speed cutting / drilling) likely to produce aerosol from the respiratory tract (upper or lower) or sinuses.

'Awake' includes conscious sedation (excluding people who are anaesthetised with secured airway).

The available evidence relating to respiratory tract suctioning is associated with ventilation. In line with a precautionary approach, open suctioning of the respiratory tract regardless of association with ventilation has been incorporated into the current (COVID-19) AGP list. It is the consensus view of the UK IPC cell that open suctioning **beyond the oro-pharynx** is currently considered an AGP –**oral or pharyngeal suctioning is not an AGP.**

Certain other procedures or equipment may generate an aerosol from material other than patient secretions but are not considered to represent a significant infectious risk for COVID-19. In care settings, procedures commonly undertaken which are **not** classified as AGPs include:

- non-invasive ventilation (NIV)
- bi-level positive airway pressure ventilation (BiPAP) and continuous positive airway pressure ventilation (CPAP)
- high flow nasal oxygen (HFNO)
- oral or pharyngeal suctioning (suctioning to clear mucus or saliva from the mouth)
- administration of humidified oxygen
- administration of Entonox or medication via nebulisation

2.1 Link to latest AGP list

Latest AGP list available at: [NHS England » Chapter 2: Transmission based precautions \(TBPs\)](#)

3. Routes of transmission

Respiratory infections can be spread in multiple ways.

Droplet

Droplets are generated in the respiratory tract and released from the body during coughing, sneezing, or talking. They travel around one to two metres. These droplets do not remain in the air for long periods before dropping on surfaces in the wider environment and the floor. When these droplets come into contact with a new host, transmission of infection can occur via mucous membranes.

Airborne transmission

Aerosol generating procedures have a greater risk of passing infection in comparison to droplet due to the aerosols being much smaller. The aerosols remain in the air for longer periods of time, potentially transmitting infection via mucus membranes or inhalation.

Contact precautions.

Contact precautions are used for all contact with residents and is an enhanced form of standard precautions.

Contact with others can be via direct or indirect transmission.

Indirect- No physical contact with infected host however the environment is contaminated. The susceptible host's hands or mucous membranes become contaminated and infectious transmission can occur.

Direct- Physical contact with the Infectious person e.g., shaking hands, hugging.

4. Staff cohorting

During periods of infectious disease outbreaks

- Staff should be assigned to a specific group of service users where possible.
- Staff should not go between different groups of service users where possible.

5. Hand Hygiene

Hand Hygiene is one of the most effective ways to prevent transmission. Hand hygiene must be performed in line with the 5 moments of hand hygiene as a minimum.

1. Before touching a service user
2. Before a clean/ aseptic procedure
3. After blood or body fluid exposure or risk
4. After touching a service user
5. After touching service user's surroundings

Hand Hygiene must be performed before putting on and after taking off PPE.

The use of alcohol hand rub/ gel to decontaminate hands that are not visually soiled is acceptable. Liquid soap and water must be used if visually soiled when there has been potential or risk of exposure to body fluid and after removing gloves.

6. Ventilation*

- During an AGP rooms must be well ventilated
- Doors must be closed and remain closed for a minimum of 60 minutes following the procedure.
- Staff must not enter the room without an FFP3 respirator mask for a minimum of 60 minutes after the AGP procedure.

*See Annex A for further information about ventilation.

7. Donning and doffing AGP PPE

Staff must follow strict donning and doffing procedures in line with UK Health security agency issued guidelines.

*Video demonstrating donning and doffing AGP PPE

COVID-19: personal protective equipment use for aerosol generating procedures - GOV.UK (www.gov.uk)

Donning and doffing resident / service user positive or suspected ARI:

UK Health Security Agency COVID-19

Putting on (donning) personal protective equipment (PPE) for aerosol generating procedures (AGPs). Airborne Precautions – Gown version

Use safe work practices to protect yourself and limit the spread of infection

- keep hands away from face and PPE being worn
- change gloves when torn or heavily contaminated
- limit surfaces touched in the patient environment
- regularly perform hand hygiene
- always clean hands after removing gloves

Pre-donning instructions

- ensure healthcare worker hydrated
- tie hair back
- remove jewellery
- check PPE in the correct size is available

Putting on personal protective equipment (PPE). The order for putting on is gown, respirator, eye protection and gloves. This is undertaken outside the patient's room.

Perform hand hygiene before putting on PPE

- 1 Put on the long-sleeved fluid repellent disposable gown** - fasten neck ties and wrist ties.
- 2 Respirator.**
Note: this must be the respirator that you have been fit tested to use. Where goggles or safety spectacles are to be worn with the respirator, these must be worn during the fit test to ensure compatibility.
Position the upper straps on the crown of your head, above the ears and the lower strap at the nape of the neck. Ensure that the respirator is flat against your cheeks. With both hands mould the nose piece from the bridge of the nose firmly pressing down both sides of the nose with your fingers until you have a good facial fit. If a good fit cannot be achieved **DO NOT PROCEED**.
Perform a fit check. The technique for this will differ between different makes of respirator. Instructions for the correct technique are provided by manufacturers and should be followed for fit checking.
- 3 Eye protection** - Place over face and eyes and adjust the headband to fit.
- 4 Gloves** - select according to hand size. Ensure cuff of gown covered by the cuff of the gloves.

UK Health Security Agency COVID-19

Removal of (doffing) personal protective equipment (PPE). Airborne Precautions for AGPs – Gown version

PPE should be removed in an order that minimises the potential for cross contamination. Unless there is a dedicated isolation room with ante room, PPE is to be removed in an systematic way before leaving the patient's room i.e. gloves, then gown and then eye protection. The FFP3 respirator must always be removed outside the patient's room.

Where possible (dedicated isolation room with ante room) the process should be supervised by a buddy at a distance of 2 metres to reduce the risk of the healthcare worker removing PPE and inadvertently contaminating themselves while doffing.

The FFP3 respirator should be removed in the anteroom/lobby. In the absence of an anteroom/lobby, remove FFP3 respirator in a safe area (e.g. outside the isolation room). All PPE must be disposed of as healthcare (including clinical) waste.

The order of removal of PPE is as follows:

- 1 Gloves – the outsides of the gloves are contaminated**
Finally:
 - grasp the outside of the glove with the opposite gloved hand; peel off.
 - hold the removed glove in gloved hand**Then:**
 - slide the fingers of the ungloved hand under the remaining glove at the wrist
 - peel the remaining glove off over the first glove and discard
- 2 Gown – the front of the gown and sleeves will be contaminated**
Untie/unhook neck and wrist ties. Pull gown away from the neck and shoulders, touching the inside of the gown only using a peeling motion so the outside of the gown will be contaminated. Turn the gown inside out, roll or fold into a bundle and discard into a lined waste bin.
- 3 Eye protection (preferably a full-face visor) – the outside will be contaminated**
To remove, use both hands to handle the remaining straps by pulling away from behind and discard.
- 4 Respirator** - In the absence of an anteroom/lobby, remove FFP3 respirators in a safe area (e.g., outside the isolation room). Clean hands with alcohol hand rub.
Do not touch the front of the respirator as it will be contaminated
 - lean forward slightly
 - reach to the back of the head with both hands to find the bottom retaining straps and bring it up to the top strap
 - lift straps over the top of the head
 - let the respirator fall away from your face and place in bin
- 5 Wash hands with soap and water**

6.2 Donning and doffing PPE AGP resident not

suspected or confirmed ARI:

UK Health Security Agency

Putting on personal protective equipment (PPE) Standard Infection Control Precautions

Please see donning and doffing video to support this guidance: https://youtu.be/-GncQ_ed-9w

Pre-donning instructions:

- Ensure healthcare worker hydrated
- Remove jewellery
- Tie hair back
- Check PPE in the correct size is available

- 1 Perform hand hygiene before putting on PPE.**
- 2 Put on apron and tie at waist.**
- 3 Put on facemask – position upper straps on the crown of your head, lower strap at nape of neck.**
- 4 With both hands, mould the metal strap over the bridge of your nose.**
- 5 Don eye protection if required.**
- 6 Put on gloves.**

UK Health Security Agency

Taking off personal protective equipment (PPE) Standard Infection Control Precautions

Please see donning and doffing video to support this guidance: https://youtu.be/-GncQ_ed-9w

PPE should be removed in an order that minimises the risk of self-contamination.

- Gloves, aprons (and eye protection if used) should be taken off in the patient's room or cohort area

- 1 Remove gloves.** Grasp the outside of glove with the opposite gloved hand; peel off. Hold the removed glove in the remaining gloved hand. Slide the fingers of the ungloved hand under the remaining glove at the wrist. Peel the remaining glove off over the first glove and discard.
- 2 Clean hands.**
- 3 Apron.** Untie/unhook or break apron strap at the neck and let the apron fold down on itself. Break ties at waist and fold apron in on itself – do not touch the outside – this will be contaminated. Discard.
- 4 Remove eye protection if worn.** Use both hands to handle the straps by pulling away from face and discard.
- 5 Clean hands.**
- 6 Remove facemask once your clinical work is completed.** Untie or break bottom tie, followed by top tie or elastic, and remove by handling the ties only. Lean forward slightly. Discard. DO NOT reuse once removed.
- 7 Clean hands with soap and water.**

PPE for use during and within 60 minutes of an AGP ending in a room without more than six air changes per hour with positive resident or service user*.

Caring for resident / Service users who is positive or suspected ARI PPE-

- a. Long sleeved gown
- b. FFP3 respirator mask (fit tested & fit checked)
- c. Eye protection
- d. Gloves

Caring for a resident / Service user who is not suspect and does not have symptoms of ARI -

1. Apron (long sleeve gown should be risk assessed if risk of extensive splashing)
2. Type IIR mask (single use only)
3. Gloves
4. Eye Protection

8. Environmental cleaning and decontamination

Evidence shows some respiratory infectious agents can live on surfaces for up to 72 hours after leaving the host's body. It is therefore essential environmental cleaning and decontamination is managed and recorded in line with The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance. This requires that registered providers of health and social care:

“Provide and maintain a clean and appropriate environment in managed premises that facilitates the prevention and control of infections.”

Increased frequency of decontamination/ cleaning must be incorporated into daily cleaning. Frequently touched surfaces should be cleaned more than twice per day. For example.

Surfaces within the service users' rooms, doorbells, light switches, bathrooms handrails, electronic equipment.

Service user requiring AGP regularly.

Cleaning and decontamination should be completed by specially trained staff. In some instances, care staff may need to undertake cleaning duties.

After cleaning with neutral detergent, a high-level disinfectant should be used with the appropriate dilution, as per CH23 **Safe management of the care environment policy** (which can be found on the Westmorland and Furness website). The service users' room should be cleaned twice daily and separately to other service users in line with infection risk.





When a service user has left the room

- All surfaces must be cleaned and disinfected.
- Dedicated or disposable equipment must be used and discarded in infectious waste.
- Equipment must not be reused unless decontaminated in line with manufactures instructions.

9. Waste

In addition to [standard precautions](#) the following should be observed:

- in a care home, waste generated when supporting a person with confirmed ARI should enter the hazardous waste stream (usually an orange bag)
- waste visibly contaminated with respiratory secretions (sputum, mucus) from a person suspected or confirmed ARI should be disposed of into foot-operated lidded bins which should be lined with a disposable waste bag.
- if there is not access to a hazardous waste stream, such as waste generated in people's own homes, this should be sealed in a bin liner before disposal into the usual waste stream.

Waste stream guide for Care Home settings	
Colour*	Description
 Orange	<p>Infectious waste: Items contaminated with urine, faeces, vomit, sputum, pus or wound exudate, from a known, suspected or at risk of infection source. Items may include personal protective equipment (PPE), continence pads, urine bags, single use items, single use bowls and dressings.</p> <ul style="list-style-type: none"> • Waste from blood and/or body fluid spillages. • Infectious waste may be treated to render it safe prior to disposal, or alternatively incinerated in a licensed facility.
 Yellow and black	<p>Offensive/hygiene waste: Items contaminated with urine, faeces, vomit, sputum, pus or wound exudate, from residents with no risk of, known or suspected infection. Items may include PPE, continence pads, urine bags, single use items, single use bowls, dressings, feminine hygiene, nappies and any other items assessed to be non-infectious, such as uncontaminated PPE.</p> <ul style="list-style-type: none"> • Liquids, e.g. urine, faeces, vomit, should be discarded into a foul sewer (sluice or toilet). They can, however, be absorbed onto a disposable cloth, e.g. paper towel, and placed in the offensive waste stream, ensuring there is no free-flowing liquid present. • Offensive/hygiene waste may be land filled in a permitted or licensed facility.
 Black	<p>Domestic waste: Items which do not contain infectious materials, sharps or medicinal products, e.g. paper towels from hand washing, packaging, newspapers.</p> <ul style="list-style-type: none"> • Clear or opaque waste bags can also be used for domestic waste. • Recycling options should be considered where available. • Domestic waste may be land filled in a permitted or licensed facility.
 Purple	<p>This waste stream is rarely used in care home settings.</p> <p>Cytotoxic and cytostatic waste: Items contaminated with hormone or oxytocin-based agents.</p> <ul style="list-style-type: none"> • Cytotoxic and cytostatic waste must be incinerated in a permitted or licensed facility.

10. Fit Testing

Please ensure all staff performing AGP's are appropriately fit tested for the FFP3 respirators within the setting. As different manufacturers products do not always fit all staff this means fit testing is an essential part of health and safety.

11. References

Department of Health (2015) The Health and Social Care Act 2008: Code of Practice on the prevention and control of infections and related guidance

Annex A

Ventilation

The rate of clearance of aerosols in an enclosed space is dependent on the extent of any mechanical or natural ventilation and the size of the droplets created – the greater the number of air changes per hour (ventilation rate), the sooner any aerosol will be cleared. The time required to clear aerosols, and thus the time after which the room can be entered without a filtering face piece (FFP3) respirator, can be determined by the number of air changes per hour as outlined in WHO guidance for hospitals; in general wards and single rooms there should be a minimum of 6 air changes per hour.

Where feasible, environmental decontamination should be performed when it is considered appropriate to enter the room or area following an AGP without infection. A single air change is estimated to remove 63% of airborne contaminants, after 5 air changes less than 1% of airborne contamination is thought to remain. Clearance of infectious particles after an AGP is dependent on the ventilation and air change within the room. In an isolation room with 10-12 air changes per hour, a minimum of 20 minutes is considered pragmatic. In a single room with 6 ACH this would be approximately one hour.

After AGP procedure

After conducting an AGP staff are required to follow doffing practice and hand hygiene. After completing all necessary infection prevention practice staff can continue to work in a normal manner, they do not need to wait additional time to elapse before then can be in contact with other staff or residents.