

COVID-19

Guidance for infection prevention and control in healthcare settings

***Adapted from Pandemic Influenza: Guidance for Infection
prevention and control in healthcare settings 2020***

Issued jointly by the Department of Health and Social Care (DHSC), Public Health Wales (PHW), Public Health Agency (PHA) Northern Ireland, Health Protection Scotland (HPS) and Public Health England as official guidance.

2. Transmission characteristics of COVID-19 and principles of infection prevention and control

2.1 Routes of transmission

Infection control advice is based on the reasonable assumption that the transmission characteristics of COVID-19 are similar to those of the 2003 SARS-CoV outbreak. The initial phylogenetic and immunologic similarities between COVID-19 and SARS-CoV can be extrapolated to gain insight into some of the epidemiological characteristics. The transmission of COVID-19 is thought to occur mainly through respiratory droplets generated by coughing and sneezing, and through contact with contaminated surfaces.¹ The predominant modes of transmission are assumed to be droplet and contact. For SARS-CoV, evidence suggests that use of both respirators and surgical face masks offer a similar level of protection, both associated with up to an 80% reduction in risk of infection.² During AGPs there is an increased risk of aerosol spread of infectious agents irrespective of the mode of transmission (contact, droplet, or airborne) ([Section 6.5 AGPs](#)), and airborne precautions must be implemented when performing AGPs, including those carried out on a suspected or confirmed case of COVID-19.

In light of the above, the Department of Health and Social Care's New and Emerging Respiratory Virus Threat Assessment Group (NERVTAG) have recommended that airborne precautions should be implemented at all times in clinical areas considered AGP 'hot spots' e.g. Intensive Care Units (ICU), Intensive Therapy Units (ITU) or High Dependency Units (HDU) that are managing COVID-19 patients (unless patients are isolated in a negative pressure isolation room/or single room, where only staff entering the room need wear a respirator).

In other areas a fluid-resistant (Type IIR) surgical mask (FRSM) is recommended; all general ward staff, community, ambulance and social care staff should wear an FRSM for close patient contact (within 1 metre), unless performing an AGP, when a filtering face piece (class 3) (FFP3) respirator, eye protection, a disposable long sleeved gown and gloves should be worn.

Initial research has identified the presence of live COVID-19 virus in the stools and conjunctival secretions of confirmed cases.¹ All secretions (except sweat) and excretions, including

4. Infection prevention and control precautions

Standard infection control precautions (SICPs) and transmission based precautions (TBPs) must be used when managing patients with suspected or confirmed COVID-19.

4.1 Standard infection control precautions (SICPs) definition

Standard infection control precautions (SICPs) are the basic infection prevention and control measures necessary to reduce the risk of transmission of infectious agents from both recognised and unrecognised sources. Sources include blood and other body fluids, secretions and excretions (excluding sweat), non-intact skin or mucous membranes, and any equipment or items in the care environment. SICPs should be used by all staff, in all care settings, at all times, for all patients.

4.2 Transmission Based Precautions (TBPs) definition

Transmission based precautions (TBPs) are applied when SICPs alone are insufficient to prevent cross transmission of an infectious agent. TBPs are additional infection control precautions required when caring for a patient with a known or suspected infectious agent. TBPs are categorised by the route of transmission of the infectious agent:

4.3 Routes of transmission:

- **Contact precautions:** Used to prevent and control infection transmission via direct contact or indirectly from the immediate care environment (including care equipment). This is the most common route of infection transmission.
- **Droplet precautions:** Used to prevent and control infection transmission over short distances via droplets ($>5\mu\text{m}$) from the respiratory tract of one individual directly onto a mucosal surface or conjunctivae of another individual. Droplets penetrate the respiratory system to above the alveolar level. The maximum distance for cross transmission from droplets has not been definitively determined, although a distance of approximately 1 metre (3 feet) around the infected individual has frequently been reported in the

medical literature as the area of risk.^{7, 9}

- **Airborne precautions:** Used to prevent and control infection transmission without necessarily having close contact via aerosols ($\leq 5\mu\text{m}$) from the respiratory tract of one individual directly onto a mucosal surface or conjunctivae of another individual. Aerosols penetrate the respiratory system to the alveolar level.

Interrupting transmission of COVID-19 requires both droplet and contact precautions; if an aerosol generating procedure (AGP) is being undertaken then airborne precautions are required in addition to contact precautions.

In all healthcare settings:

- A FRSM must be worn when working in close contact (within 2 metres) of a patient with COVID-19 symptoms.
- In an area where pandemic COVID-19 patients have been cohorted together, it may be more practical for staff to wear a FRSM at all times, rather than only when in close contact with a patient. Similarly, in primary care/outpatient settings it may be more practical for staff working in a segregated (COVID-19 patient) area to wear a FRSM for the duration they are in the patient area.
- A FRSM for COVID-19 should:
 - be well fitted covering both nose and mouth;
 - not be allowed to dangle around the neck of the wearer after or between each use;
 - not be touched once put on;
 - be changed when they become moist or damaged; and
 - be worn once and then discarded as healthcare (clinical) waste (hand hygiene must always be performed after disposal).

The provision of a FRSM for patients with suspected/confirmed COVID-19 at point of assessment or triage in any healthcare setting should be considered if the patient can tolerate it (except when in a dedicated COVID-19 area).

6.4.2 Filtering face piece (class 3) (FFP3) respirators

Filtering face piece (class 3) (FFP3) respirators should be worn whenever there is a risk of airborne transmission of pandemic COVID-19 i.e. during aerosol generating procedures (AGPs) and at all times in intensive care unit (ICU), intensive therapy unit (ITU), high dependency unit (HDU) where COVID-19 patients are cohorted.

All tight fitting respiratory protective equipment (RPE) (i.e. FFP3 respirators) must be:

- single use (disposable) and fluid-resistant*;

- fit tested on all healthcare staff who may be required to wear an FFP3 respirator to ensure an adequate seal/fit according to the manufacturers' guidance; fit checked (according to the manufacturers' guidance) every time an FFP3 respirator is donned to ensure an adequate seal has been achieved;
- compatible with other facial protection used i.e. protective eyewear so that this does not interfere with the seal of the respiratory protection. Regular corrective spectacles are not considered adequate eye protection;
- disposed of and replaced if breathing becomes difficult, the respirator is damaged or distorted, the respirator becomes obviously contaminated by respiratory secretions or other body fluids, or if a proper face fit cannot be maintained; and
- be worn once and then discarded as healthcare (clinical) waste (hand hygiene must always be performed after disposal).

*valved respirators are not fully fluid-resistant unless they are also 'shrouded'. If a valved, non-shrouded FFP3 respirator is used appropriate eye protection must be worn.

In the absence of an anteroom/lobby remove FFP3 respirators in a safe area (e.g. outside the isolation/cohort room/area).

All other PPE should be removed in the patient care area.

Further information regarding fitting and fit checking of respirators can be found on the [Health and Safety Executive website](#).

See Appendix 6 for guidance on facial hair and FFP3 wear.

6.5 Aerosol-generating procedures (AGPs)

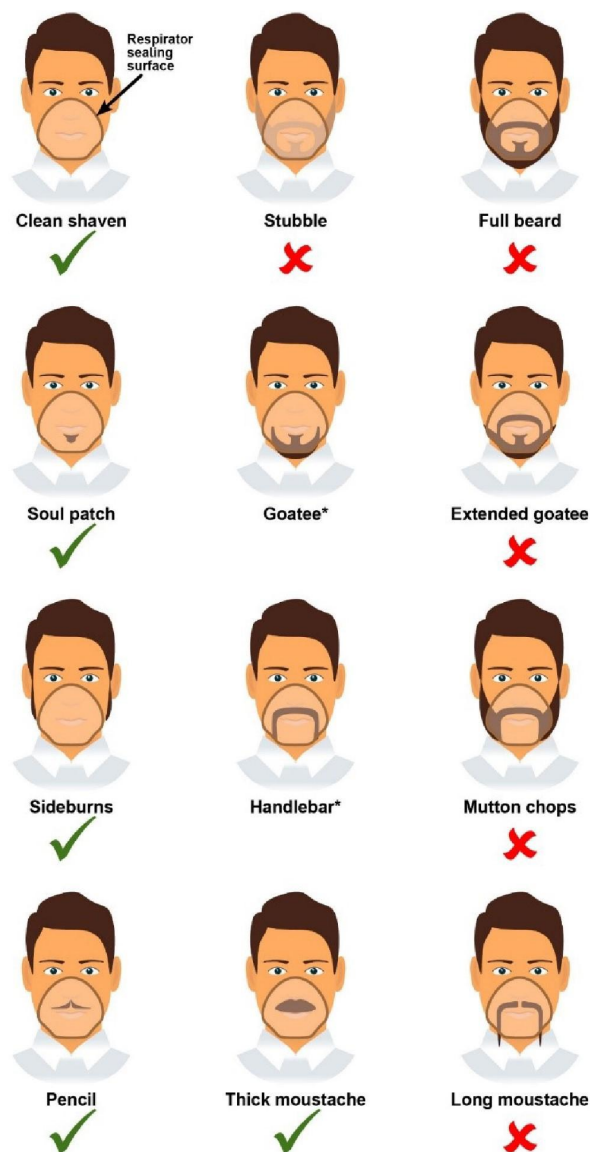
Aerosols generated by medical procedures are one route for the transmission of the COVID-19 virus. The following procedures are considered to be potentially infectious AGPs:

- Intubation, extubation and related procedures;
- Tracheotomy/tracheostomy procedures;
- Manual ventilation;
- Open suctioning;
- Bronchoscopy;
- Non-invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP);
- Surgery and post-mortem procedures in which high-speed devices are used;
- High-frequency oscillating ventilation (HFOV);
- High-flow Nasal Oxygen (HFNO)
- Induction of sputum (see glossary);
- Some dental procedures (e.g. high speed drilling).

For patients with suspected/confirmed COVID-19, any of these potentially infectious AGPs should only be carried out when essential. Where possible, these procedures should be carried out in a single room with the doors shut. Only those healthcare staff who are needed to undertake the procedure should be present. A disposable, fluid repellant surgical gown, gloves, eye protection and a FFP3 respirator should be worn by those undertaking the procedure and those in the room.

Certain other procedures/equipment may generate an aerosol from material other than patient secretions but are not considered to represent a significant infectious risk. Procedures in this category include:

Appendix 6: Facial hair and FFP3 respirators



*Ensure that hair does not cross the respirator sealing surface

For any style, hair should not cross or interfere with the respirator sealing surface. If the respirator has an exhalation valve, hair within the sealed mask area should not impinge upon or contact the valve.

*Adapted from The Centers for Disease Control and Prevention, The National Personal Protective Technology Laboratory (NPPTL), NIOSH. Facial Hairstyles and Filtering Facepiece Respirators. 2017.

Available online at <https://www.cdc.gov/niosh/npptl/RespiratorInfographics.html> . Accessed 26/02/2020.