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.

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Abbreviations

ABHR	Alcohol based hand rub
AGP	Aerosol generating procedure
CDC	Centers for Disease Control and Prevention
DHSC	Department of Health and Social Care
FRSM	Fluid-resistant (Type IIR) surgical mask
FFP3	Filtering face piece (Class 3)
HCID	High consequence infectious disease
HFOV	High-frequency oscillating ventilation
HPS	Health Protection Scotland
ICU/ITU/HDU	Intensive care unit, intensive therapy unit, high dependency unit
IPCT	Infection prevention and control team
NERVTAG	New and Emerging Respiratory Virus Threat Assessment Group
NIPCM	National Infection Prevention and Control Manual
NIV	Non-invasive ventilation
PHA (NI)	Public Health Agency (Northern Ireland)
PHE	Public Health England

PHW	Public Health Wales
PPE	Personal protective equipment
RPE	Respiratory protective equipment
SICPs	Standard infection control precautions
TBPs	Transmission based precautions
WHO	World Health Organization

1. Introduction

This document outlines the infection prevention and control advice for healthcare workers involved in receiving, assessing and caring for patients who are a possible or confirmed case of COVID-19. It is based on the best evidence available from previous pandemic and inter-pandemic periods and focuses on the infection prevention and control aspects of this disease only, recognising that a preparedness plan will consider other counter measures.

The infection prevention and control advice in this document is considered good practice in response to this COVID-19 pandemic.

N.B. The emerging evidence base on COVID-19 is rapidly evolving. Further updates may be made to this guidance as new detail or evidence emerges.

1.1 Scope and purpose

This document provides guidance and information on infection prevention and control procedures to inform and advise local healthcare planning for COVID-19. This guidance has been written for the NHS, but the infection prevention and control principles apply to other settings where healthcare is delivered. It is 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.

Whilst this guidance seeks to ensure a consistent and resilient UK wide approach, some differences in operational details and organisational responsibilities may apply in Northern Ireland, England, Wales and Scotland.

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, there is limited evidence from observational studies showing a protective effect of up to 80% of masks and N95 respirators (the US equivalent of UK FFP2 respirators) used by healthcare workers however the evidence base is sparse and indications (and compliance) for mask/respirator use in these studies varied.[2] It should be noted that N95 respirators are not recommended for use in UK healthcare settings. In the UK, FFP3 respirators should be worn for airborne precautions and must be compliant with BS EN149:200.1 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.
Coughing and sneezing are known to release aerosols, however, it is thought that aerosols generated by medical procedures (AGPs) pose a more significant risk to infection transmission.

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 diarrhoeal stools from patients with known or suspected COVID-19, should be regarded as potentially infectious.

2.2 Incubation and infectious period

Assessment of the clinical and epidemiological characteristics of SARS-CoV-2 cases suggests that, similar to SARS-CoV, patients will not be infectious until the onset of symptoms. In most cases, individuals are usually considered infectious while they have symptoms; how infectious individuals are, depends on the severity of their symptoms and stage of their illness. The median time from symptom onset to clinical recovery for mild cases is approximately 2 weeks and is 3-6 weeks for severe or critical cases.[3] There have been case reports that suggest infectivity during the asymptomatic period, with one patient found to be shedding virus before the onset of symptoms.[4] Further study is required to determine the actual occurrence and impact of asymptomatic transmission.

Precautions in section 5: Standard Infection Control Precautions (SICPs) and section 6: Transmission Based Precautions (TBPs) should remain in place until symptoms resolve.

From international data, the balance of evidence is that infectivity has significantly reduced 7 days after the onset of symptoms.

2.3 Survival in the environment

In light of limited data for SARS-CoV-2, evidence was assessed from studies conducted with previous human coronaviruses including MERS-CoV and SARS-CoV. Human coronaviruses can survive on inanimate objects and can remain viable for up to 5 days at temperatures of 22-

25°C and relative humidity of 40-50% (which is typical of air-conditioned indoor environments).[1] Survival on environmental surfaces is also dependent on the surface type.[1] An experimental study using a SARS-CoV-2 strain reported viability on plastic for up to 72 hours, for 48 hours on stainless steel and up to 8 hours on copper.[1] Viability was quantified by end-point titration on Vero E6 cells. Extensive environmental contamination may occur following an aerosol generating procedure (AGP). The rate of clearance of aerosols in an enclosed space is dependent on the extent of any mechanical/natural ventilation – the greater the number of air changes per hour (ventilation rate), the sooner any aerosol will be cleared.[5] The time required for clearance of aerosols, and thus the time after which the room can be entered without a filtering face piece (class 3) (FFP3) respirator, can be determined by the number of air changes per hour (ACH) as outlined in WHO guidance; in general wards and single rooms there should be a minimum of 6 air changes per hour, in negative-pressure isolation rooms there should be a minimum of 12 air changes per hour.[6] Where feasible, environmental decontamination should be performed when it is considered appropriate to enter the room/area without an FFP3 respirator. 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.[7] A minimum of 20 minutes i.e. 2 air changes, in hospital settings where the majority of these procedures occur is considered pragmatic.

The precautions described in section 5.2: Hand hygiene and section 6.6: Management of patient care environment and equipment should be followed.

3. Organisational preparedness for preventing and controlling COVID-19

Limiting transmission of COVID-19 in the healthcare setting requires a range of infection prevention and control measures which can be considered as a hierarchy of controls. Administrative controls are implemented at an organisational level (e.g. the design and use of appropriate processes, systems and engineering controls, and provision and use of suitable work equipment and materials) to help prevent the introduction of infection and to control and limit the transmission of infection in healthcare. The control of exposure at source, including adequate ventilation systems and effective environmental decontamination will physically reduce exposure to infection. Employers are under a legal obligation – under control of substances hazardous to health (COSHH) – to adequately control the risk of exposure to hazardous substances where exposure cannot be prevented. The provision and use of personal protective equipment (PPE), including respiratory protective equipment (RPE), will protect staff, patients and visitors. Employees have an obligation to make full and proper use of any control measures, including PPE, provided by their employer. The principles below are listed as a hierarchy of infection prevention and control measures at a local hospital/ward level. (Note that this list is not exhaustive but includes key principles and illustrates a useful approach to preventing and controlling COVID-19).

Hierarchy of Control measures:

- Early recognition/reporting of cases;
- Early assessment/triaging of cases;
- Implementing control measures, including:
  - maintaining separation in space and/or time between suspected and confirmed COVID-19 patients,
  - educating staff, patients and visitors about Standard infection control precautions (SICPs) and Transmission Based Precautions (TBPs),
  - prompt implementation of TBPs to limit transmission,

- restricting access of ill visitors to the facility,
- instructing staff members with symptoms to stay at home and not come to work until symptoms resolve,
- planning and implementation of strategies for surge capacity.

In preparedness for implementing these control measures all healthcare organisations should undertake planning, and test the preparedness response for the various phases of a pandemic. This includes:

- An assessment of their facilities' current capabilities. Healthcare services will not be able to operate under 'business as usual' during a COVID-19 pandemic. An assessment of the practical ability to deliver care and implement control measures under the pressure of an exceptional number of patient admissions and reduced staff numbers due to illness must be assessed; ensuring their facilities' most current blueprints are readily available and accessible if needed to make necessary changes;
- An assessment of the current workforce;
- Working in a multidisciplinary team with healthcare and social care leaders/managers, engineering, and clinical staff to plan for segregation of patients and/or services and creation of adequate isolation rooms; identifying potential areas that could be converted effectively with minimum modifications; and
- Defining engineering, administrative, and personnel requirements that can be efficiently implemented during a pandemic COVID-19 event.[8]

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 (>5μm) 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 (≤5μm) 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.

5. Standard infection control precautions (SICPs)

5.1 Patient placement/assessment for infection risk

Patients must be promptly assessed for infection risk on arrival at the care area and, if possible, prior to accepting a patient from another care area. Patients should be continuously reviewed throughout their inpatient stay. In all healthcare settings, patients with symptoms of COVID-19 should be segregated from non-symptomatic patients as promptly as possible.

5.2 Hand hygiene

Hand hygiene is essential to reduce the transmission of infection in health and other care settings and is a critical element of standard infection control precautions (SICPs). All staff, patients and visitors should decontaminate their hands with alcohol based hand rub (ABHR) when entering and leaving areas where care for –suspected and confirmed COVID-19 patients is being delivered.

Hand hygiene must be performed immediately before every episode of direct patient care and after any activity or contact that potentially results in hands becoming contaminated, including the removal of personal protective equipment (PPE), equipment decontamination and waste handling: https://www.who.int/gpsc/5may/Your_5_Moments_For_Hand_Hygiene_Poster.pdf

Before performing hand hygiene:

- expose forearms (bare below the elbows);
- remove all hand and wrist jewellery (a single, plain metal finger ring is permitted but should be removed (or moved up) during hand hygiene);
- ensure finger nails are clean, short and that artificial nails or nail products are not worn;
- cover all cuts or abrasions with a waterproof dressing.

Technique for hand washing and rubbing

- Hand hygiene includes the use of ABHR for routine hand hygiene and hand washing with soap and water, including thorough drying, if hands are visibly soiled or dirty.

- The technique for hand washing must be carried out thoroughly and for a time period sufficient to inactivate the virus i.e. 40 to 60 seconds. See

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- Appendix 1: Best practice how to hand wash.

- ABHR must be available for all staff as near to point of care as possible, where this is not practical, personal dispensers should be used. The technique for use of ABHR to decontaminate hands must be carried out thoroughly and for a time period sufficient to inactivate the virus i.e. 20 to 30 seconds. See Appendix 2.

- Where no running water is available or hand hygiene facilities are lacking, such as in a patient's home, staff may use hand wipes followed by ABHR and should wash their hands at the first available opportunity.

5.3 Respiratory and cough hygiene – 'Catch it, bin it, kill it'

Patients, staff and visitors should be encouraged to minimise potential COVID-19 transmission through good respiratory hygiene measures:

- Disposable, single-use tissues should be used to cover the nose and mouth when sneezing, coughing or wiping and blowing the nose. Used tissues should be disposed of promptly in the nearest waste bin.

- Tissues, waste bins (lined and foot operated) and hand hygiene facilities should be available for patients, visitors and staff.

- Hands should be cleaned (using soap and water if possible, otherwise using ABHR) after coughing, sneezing, using tissues or after any contact with respiratory secretions and contaminated objects.

- Encourage patients to keep hands away from the eyes, mouth and nose.

- Some patients (e.g. the elderly and children) may need assistance with containment of respiratory secretions; those who are immobile will need a container (e.g. a plastic bag) readily at hand for immediate disposal of tissues.

- In common waiting areas or during transportation, symptomatic patients may wear a fluid-resistant (Type IIR) surgical face mask (FRSM), if tolerated, to minimise the dispersal of respiratory secretions and reduce environmental contamination.

5.4 Personal Protective Equipment (PPE)

Before undertaking any procedure, staff should assess any likely exposure and ensure PPE is worn that provides adequate protection against the risks associated with the procedure or task being undertaken. All staff should be trained in the proper use of all PPE that they may be required to wear.

In addition:

- Staff who have had and recovered from COVID-19 should continue to follow infection control precautions, including the PPE recommended in this document.

All PPE should be:

- compliant with the relevant BS/EN standards (European technical standards as adopted in the UK);
- located close to the point of use;
- stored to prevent contamination in a clean/dry area until required for use (expiry dates must be adhered to);
- single-use only;
- changed immediately after each patient and/or following completion of a procedure or task; and
- disposed of after use into the correct waste stream i.e. healthcare/clinical waste (this may require disposal via orange or yellow bag waste; local guidance will be provided depending on the impact of the disease)

5.4.1 Disposable apron/gown

Disposable plastic aprons must be worn to protect staff uniform or clothes from contamination when providing direct patient care and during environmental and equipment decontamination.

Fluid-resistant gowns must be worn when a disposable plastic apron provides inadequate cover of staff uniform or clothes for the procedure/task being performed and when there is a risk of

extensive splashing of blood and/or other body fluids e.g. during aerosol generating procedures (AGPs). If non fluid-resistant gowns are used, a disposable plastic apron should be worn underneath.

Disposable aprons and gowns must be changed between patients and immediately after completion of a procedure/task.

5.4.2 Disposable gloves

Disposable gloves must be worn when providing direct patient care and when exposure to blood and/or other body fluids is anticipated/likely, including during equipment and environmental decontamination. Gloves must be changed immediately following the care episode or the task undertaken.

5.4.3 Eye protection/Face visor

Eye/face protection should be worn when there is a risk of contamination to the eyes from splashing of secretions (including respiratory secretions), blood, body fluids or excretions. An individual risk assessment should be carried out prior to/at the time of providing care.

Disposable, single-use, eye/face protection is recommended.

Eye/face protection can be achieved by the use of any one of the following:

- surgical mask with integrated visor;
- full face shield/visor;
- polycarbonate safety spectacles or equivalent;

Regular corrective spectacles are not considered adequate eye protection.

See Appendix 3 for the correct order of donning and doffing personal protective equipment (PPE).

5.5 Safe management of linen (laundry)

No special procedures are required; linen is categorised as ‘used’ or ‘infectious’. All linen used in the direct care of patients with suspected and confirmed COVID-19 should be managed as

'infectious' linen. Linen must be handled, transported and processed in a manner that prevents exposure to the skin and mucous membranes of staff, contamination of their clothing and the environment:

Disposable gloves and an apron should be worn when handling infectious linen.

All linen should be handled inside the patient room/cohort area. A laundry receptacle should be available as close as possible to the point of use for immediate linen deposit.

When handling linen do not:

- rinse, shake or sort linen on removal from beds/trolleys;
- place used/infectious linen on the floor or any other surfaces e.g. a locker/table top;
- re-handle used/infectious linen once bagged;
- overfill laundry receptacles; or
- place inappropriate items in the laundry receptacle e.g. used equipment/needles.

When managing infectious linen:

- place directly into a water-soluble/alginate bag and secure;
- place the water-soluble bag inside a clear polythene bag and secure;
- place the polythene bag into in the appropriately coloured (as per local policy) linen bag (hamper).

All linen bags/receptacles must be tagged e.g. ward/care area and date. Store all used/infectious linen in a designated, safe, lockable area whilst awaiting uplift. Organisational preparedness plans should consider the safe storage of excess linen awaiting collection and for maintaining supplies of clean linen for patient use.

5.6 Staff uniforms/clothes

The appropriate use of personal protective equipment (PPE) will protect staff uniform from

contamination in most circumstances. Healthcare facilities should provide changing rooms/areas where staff can change into uniforms on arrival at work.

Organisations may consider the use of theatre scrubs for staff who do not usually wear a uniform but who are likely to come into close contact with patients e.g. medical staff.

Healthcare laundry services should be used to launder staff uniforms. If there is no laundry facility available, then uniforms should be transported home in a disposable plastic bag. This bag should be disposed of into the household waste stream.

Uniforms should be laundered:

- separately from other household linen;
- in a load not more than half the machine capacity;
- at the maximum temperature the fabric can tolerate, then ironed or tumbled-dried.

NB. It is best practice to change into and out of uniforms at work and not wear them when travelling; this is based on public perception rather than evidence of an infection risk. This does not apply to community health workers who are required to travel between patients in the same uniform.

5.7 Management of blood and body fluid spills

Spillages must be decontaminated in line with local policy. For an example, see Appendix 4.

5.8 Management of healthcare (including clinical) and non-clinical waste

Large volumes of waste may be generated by frequent use of PPE; advice from the local waste management team should be sought prospectively on how to manage this.

Dispose of all waste as clinical waste.

Waste from a possible or a confirmed case must be disposed of as Category B waste. The transport of Category B waste is described in Health Technical Memorandum 07-01: Safe management of healthcare waste. Disposal of all waste related to possible or confirmed cases should be classified as infectious clinical waste suitable for alternative treatment, unless the

waste has other properties that would require it to be incinerated.

6. Transmission based precautions (TBPs) for pandemic COVID-19

In addition to standard infection control precautions (SICPs), droplet precautions should be used for patients known or suspected to be infected with COVID-19 in all healthcare settings.

- COVID-19 virus is expelled as droplets from the respiratory tract of an infected individual (e.g. during coughing and sneezing) directly onto a mucosal surface or conjunctiva of a susceptible individual(s) or environmental surface(s).

- Droplets travel only short distances through the air; a distance of at least 1 metre has been used for deploying droplet precautions. However, this distance should be considered as the minimum rather than an absolute:

- Transmission based precautions (TBPs (droplet) should be continued until the resolution of the patient's fever and respiratory symptoms.

6.1 Duration of precautions

Patients should remain in isolation/cohort with TBPs applied until the resolution of fever and respiratory symptoms. The duration of TBPs may require modification based on the intelligence gathered about COVID-19.

Patients can be discharged before resolution of symptoms provided they are deemed clinically fit for discharge and should be advised to self-isolate as per staying at home guidance. Discharge to long term care facilities should be discussed and agreed locally.

The decision to modify the duration of, or 'stand down' TBPs should be made by the clinical team managing the patient(s); based on patient condition and in agreement with the local Infection Prevention and Control Team (IPCT).

6.2 Segregation and cohorting (inpatient settings)

6.2.1 Negative pressure isolation rooms

Special environmental controls, such as negative pressure isolation rooms, are not necessary to prevent the transmission of COVID-19. However, in the early stages, and in high risk settings, patients with suspected or confirmed COVID-19 may be isolated in negative pressure rooms.

6.2.2 Single rooms

Wherever possible, patients with suspected or confirmed COVID-19 should be placed in single rooms. In an escalating situation there is however likely to be a lack of single rooms/isolation facilities. Where single/isolation rooms are in short supply, and cohorting is not yet considered possible (patient(s) awaiting laboratory confirmation), prioritise patients who have excessive cough and sputum production for single/isolation room placement.

Single rooms in COVID-19 segregated areas should, wherever possible, be reserved for performing aerosol generating procedures (AGPs).

Single rooms in non-COVID-19 areas should be reserved for patients requiring isolation for other (non-influenza-like illness) reasons.

The prioritising of patients for isolation other than suspected or confirmed COVID-19 patients should be decided locally, based on patient need and local resources.

6.2.3 Cohort areas

If a single/isolation room is not available, cohort confirmed respiratory infected patients with other patients confirmed to have COVID-19. Ensure patients are physically separated; a distance of at least 1 metre. Use privacy curtains between the beds to minimise opportunities for close contact. Where possible, a designated self-contained area or wing of the healthcare facility should be used for the treatment and care of patients with COVID-19. This area should:

- include a reception area that is separate from the rest of the facility and should, if feasible, have a separate entrance/exit from the rest of the building;

- not be used as a thoroughfare by other patients, visitors or staff, including patients being transferred, staff going for meal breaks, and staff and visitors entering and exiting the

building;

- be separated from non-segregated areas by closed doors; and
- have signage displayed warning of the segregated area to control entry.

Hospitals should consider creating cohort areas which differentiate the level of care required. It may also be prudent to consider:

- the need for cohorting in single/mixed sex wards/bays
- underlying patient condition (immunocompromised);
- age groups when cohorting children; and
- routine childhood vaccination status when cohorting children.

6.2.4 Staff cohorting

Assigning a dedicated team of staff to care for patients in isolation/cohort rooms/areas is an additional infection control measure. This should be implemented whenever there are sufficient levels of staff available (so as not to have a negative impact on non-affected patients' care).

Staff who have had confirmed COVID-19 and recovered should continue to follow the infection control precautions, including personal protective equipment (PPE), as outlined in this document (see section 7).

6.2.5 Visitors to segregated/cohort areas

Visitors to all areas of the healthcare facility should be restricted to essential visitors only, such as parents of paediatric patients or an affected patient's main carer. Local risk assessment and practical management should be considered, ensuring this is a pragmatic and proportionate response, including the consideration of whether there is a requirement for visitors to wear PPE or respiratory protective equipment (RPE).

Visiting may be suspended if considered appropriate. All visitors entering a segregated/cohort area must be instructed on hand hygiene. They must not visit any other care area.

Signage to support restrictions is critical. Visitors with COVID-19 symptoms must not enter the healthcare facility. Visitors who are symptomatic should be encouraged to leave and must not be permitted to enter areas where there are immunocompromised patients.

6.3 Patient transfers and transport

6.3.1 Intra-hospital transfers:

- The movement and transport of patients from their single room/cohort area should be limited to essential purposes only. Staff at the receiving destination must be informed that the patient has or is suspected to have COVID-19.

- If transport/movement is necessary, consider offering the patient a fluid-resistant (Type IIR) surgical mask (FRSM) to be worn during transportation, to minimise the dispersal of respiratory droplets when this can be tolerated.

- Patients must be taken straight to and returned from clinical departments and must not wait in communal areas. If possible, patients should be placed at the end of clinical lists.

6.3.2 Transfer from primary care/community settings:

- If transfer from a primary care facility or community setting to hospital is required, the ambulance service should be informed of the infectious status of the patient.

- Staff of the receiving ward/department should be notified in advance of any transfer and must be informed that the patient has or is suspected to have COVID-19.

6.3.3 Inter-hospital transfers:

- Patient transfer from one healthcare facility to another should be avoided; transfer may be undertaken if medically necessary for specialist care arising out of complications or concurrent medical events (for example, cardiac angioplasty, and renal dialysis). If transfer is essential, the ambulance service and receiving hospital must be advised in advance of the infectious status of the patient.

6.4 Personal protective equipment (PPE)

Personal protective equipment (PPE) for the care of patients with COVID-19 is summarised in Table 1, see Appendix 3 for how to put on and remove PPE.

Table 1: Transmission based precautions (TBPs): Personal protective equipment (PPE) for care of patients with pandemic COVID-19

	Entry to cohort area (only if necessary) no patient contact*	Within 1 metre of a patient with possible/confirmed COVID-19*	High risk units where AGPs are being conducted eg: ICU/ITU/HDU	Aerosol generating procedures (any setting)
Disposable Gloves	No	Yes	Yes	Yes
Disposable Plastic Apron	No	Yes	Yes	No
Disposable Gown	No	No	No	Yes
Fluid-resistant (Type IIR) surgical mask (FRSM)	Yes	Yes	No	No
Filtering face piece (class 3) (FFP3) respirator	No	No	Yes	Yes
Disposable Eye protection	No	Risk assessment	Yes	Yes

*Personal protective equipment (PPE) for close patient contact (within 1 metre) also applies to the collection of nasal or nasopharyngeal swabs.

6.4.1 Fluid resistant (Type IIR) surgical face masks (FRSM)

Fluid-resistant (Type IIR) surgical masks (FRSMs) are worn to protect the wearer from the transmission of COVID-19 by respiratory droplets.

In all healthcare settings:

- A FRSM must be worn when working in close contact (within 1 metre) of a patient with COVID-19 symptoms. This provides a physical barrier to minimise contamination of the mucosa of the mouth and nose.

- 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;
  - be removed outside the patient room, cohort area or 1 metre away from the patient with possible/confirmed COVID-19; 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*. Fluid resistant FFP3's should be worn with appropriate eye protection;

- 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).

*If wearing a FFP3 that is not fluid resistant, a full face shield/ visor must be worn

A FFP3 respirator, although 'single use', can be worn for as long as comfortable, for example for the duration of a ward round or providing clinical care.

Once separated from the face FFP3s must be discarded.

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 e.g. manual ventilation and open suctioning of the respiratory tract (including the upper respiratory tract)*
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy and upper ENT airway procedures that involve suctioning
- Upper Gastro-intestinal Endoscopy where there is open suctioning of the upper respiratory tract
- Surgery and post mortem procedures involving high-speed devices
- Some dental procedures (e.g. high-speed drilling)
- Non-invasive ventilation (NIV) e.g. Bi-level Positive Airway Pressure Ventilation (BiPAP) and Continuous Positive Airway Pressure Ventilation (CPAP)
- High Frequency Oscillatory Ventilation (HFOV)
- Induction of sputum
- High flow nasal oxygen (HFNO)

*Chest compressions and defibrillation (as part of resuscitation) are not considered AGPs; first responders can commence chest compressions and defibrillation without the need for AGP PPE while awaiting the arrival of other personnel who will undertake airway manoeuvres. On arrival of the team, the first responders should leave the scene before any airway procedures are carried out and only return if needed and if wearing AGP PPE.

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 repellent 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:

- administration of pressurised humidified oxygen;
- administration of medication via nebulisation.

Note: During nebulisation, the aerosol derives from a non-patient source (the fluid in the nebuliser chamber) and does not carry patient-derived viral particles. If a particle in the aerosol coalesces with a contaminated mucous membrane, it will cease to be airborne and therefore will not be part of an aerosol. Staff should use appropriate hand hygiene when helping patients to remove nebulisers and oxygen masks.

6.6 Management of equipment and the care environment

Decontamination of equipment and the care environment must be performed using either:

- A combined detergent/disinfectant solution at a dilution of 1,000 parts per million available chlorine (ppm available chlorine (av.cl.)); or
- A general purpose neutral detergent in a solution of warm water followed by a disinfectant solution of 1,000ppm av.cl.

Only cleaning (detergent) and disinfectant products supplied by employers are to be used. Products must be prepared and used according to the manufacturers' instructions and recommended product "contact times" must be followed. If alternative cleaning agents/disinfectants are to be used, they should only on the advice of the IPCT and conform to EN standard 14476 for virucidal activity

6.6.1 Equipment

Patient care equipment should be single-use items if possible. Reusable (communal) non-invasive equipment should as far as possible be allocated to the individual patient or cohort of patients.

Reusable (communal) non-invasive equipment must be decontaminated:

- between each patient and after patient use;
- after blood and body fluid contamination; and

- at regular intervals as part of equipment cleaning.

An increased frequency of decontamination should be considered for reusable non-invasive care equipment when used in isolation/cohort areas.

- ventilators should be protected with a high efficiency filter, such as BS EN 13328-1
- closed system suction should be used

See **Appendix 4** for guidance on routine decontamination of reusable non-invasive patient care equipment.

Avoid the use of fans that re-circulate the air.[10]

There is no need to use disposable plates or cutlery. Crockery and cutlery can be washed by hand or in a dishwasher using household detergent and hand-hot water after use.

6.6.2 Environment

Patient isolations rooms, cohort areas and clinical rooms must be decontaminated at least daily. Clinical rooms should also be decontaminated after clinical sessions for patients with suspected/known pandemic COVID-19. In addition, patient isolation rooms must be terminally cleaned:

- Following resolution of symptoms, discharge or transfer (this includes removal and laundering of all curtains and bed screens);

- Once vacated by staff following an AGP. Clearance of infectious particles after an AGP is dependent on the mechanical/natural ventilation and air change per hour(ACH) within the room. 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. In an isolation room with 10-12 ACH a minimum of 20 minutes is considered pragmatic; in a side room with 6 ACH this would be approximately 1 hour. Advice should be sought from the local Infection Prevention and Control Team (IPCT).

An increased frequency of decontamination should be incorporated into the environmental

decontamination schedules for areas where there may be higher environmental contamination rates e.g.

- toilets/commodes particularly if patients have diarrhoea; and

- “frequently touched” surfaces such as medical equipment, door/toilet handles and locker tops, patient call bells, over bed tables and bed rails should be cleaned at least twice daily and when known to be contaminated with secretions, excretions or body fluids.

Domestic/cleaning staff performing environmental decontamination should:

- be allocated to specific area(s) and not be moved between COVID-19 and non-COVID-19 care areas;

- be trained in which personal protective equipment (PPE) to use and the correct methods of wearing, removing and disposing of PPE. The care environment should be kept clean and clutter free. All non-essential items including toys, books and magazines should be removed from reception and waiting areas, consulting and treatment rooms, emergency departments, day rooms and lounges. When made available, these items should not be shared. All toys must be cleanable and should be cleaned regularly (preferably at the same time as the environment).

6.7 Handling dead bodies

The principles of Standard Infection Control Precautions (SICPs) and Transmission Based Precautions (TBPs) continue to apply whilst deceased individuals remain in the care environment. This is due to the ongoing risk of infectious transmission via contact although the risk is usually lower than for living patients. Where the deceased was known or suspected to have been infected with COVID-19, there is no requirement for a body bag, and viewing, hygienic preparations, post-mortem and embalming are all permitted.
Following a risk assessment of the potential post-mortem risk pathways PHE has developed this advice in line with the principles set out in the HSE guidance for droplet transmission risk as set out in: ‘Managing infection risks when handling the deceased: Guidance for the mortuary, post-mortem room and funeral premises, and during exhumation’.
https://www.hse.gov.uk/pUbns/priced/hsg283.pdf

7. Occupational health and staff deployment

Prompt recognition of cases of COVID-19 among healthcare staff is essential to limit the spread. Healthcare staff with influenza-like illness should not come to work. As a general principle, healthcare staff who provide care in areas for suspected/confirmed patients should not care for other patients, although exceptions may be necessary.

A risk assessment is required for health and social care staff at high risk of complications from COVID-19, including pregnant staff. Employers should:

- Discuss with employees who are at risk or are pregnant the need to be deployed away from areas used for the care of those who have, or are clinically suspected of having, COVID-19; or, in the primary care setting, from clinics set up to manage people with COVID-19 symptoms.
- Ensure that advice is available to all healthcare staff, including specific advice to those at risk from complications.

Bank, agency and locum staff should follow the same deployment advice as permanent staff.

As part of their employer's duty of care, providers have a role to play in ensuring that a fit testing programme is in place for those who may need to wear filtering face piece (class 3) (FFP3) respirator. In the event of a breach in infection control procedures e.g. an incorrectly worn FFP3 respirator during a potentially infectious aerosol generating procedure (AGP, staff should be reviewed by occupational health.

Occupational health departments should lead on the implementation of systems to monitor staff illness and absence.

Where possible, staff who have had confirmed COVID-19 (early in the stages of the outbreak this would be via virology confirmation, thereafter, this is likely to be as per case definition) should work in the cohort areas and care for suspected/confirmed COVID-19 patients. Such staff should continue to follow the infection control precautions, including personal protective equipment (PPE), as outlined in this document.

8. Specific settings

The following guidance is given to assist specific care settings to implement the principles of standard infection control precautions (SICPs) and transmission based precautions (TBPs) described in this document, which apply in all care settings.

8.1 Care home settings

Isolation within a care home for a known/suspected infection can be achieved in the persons' bedroom in most cases. Residents should remain in their bedroom whilst considered infectious (as described above) and the door should remain closed (if unable to isolate the individual then this should be documented).

8.2 Primary care

In primary care settings (e.g. General Practitioner (GP) practices) suspected COVID-19 patients should be segregated in place or time from other patients, this may be achieved by:

- Creating a separate area within the facility for care of suspected patients, including separate waiting and reception areas if possible. The area should be separated from non-segregated areas by closed doors. To control entry, signage should be displayed warning of the segregated area.

- Alternatively, suspected patients should be seen at a different time from other patients, with disinfection of shared areas taking place between different clinics.

- GP practices may make arrangements for distinct COVID-19 and non-COVID-19 clinics. (Non-essential GP clinics may need to be cancelled to enable this).

- Primary care staff should, wherever possible be allocated to either COVID-19 or other patients.

8.3 Outpatient settings

For patients who develop symptoms and have long term health conditions that require attendance at outpatient settings e.g. hospital day care, options include:

- deferring the procedure and re-scheduling the next appointment;
- transferring the patient to a designated hospital with isolation or cohort facilities;
- introducing physical barriers such as screens in special units to separate patients with symptoms of COVID-19.

8.4 Dental surgeries

Patients with symptoms of COVID-19 should not be seen for routine dental care. If a dental emergency is suspected such as severe haemorrhaging or difficulty in breathing the patient should be seen in a hospital environment.

If emergency dental care is required staff in attendance should be kept to a minimum and must wear appropriate personal protective equipment (PPE) (see table 1) particularly if this involves high speed drilling section 6.5.

8.5 Home visits

Home visits should continue as long as required to patients without COVID-19. If it becomes necessary to suspend some home visits, alternative arrangements must be put in place to maintain contact (e.g. telephone liaison). Health and social care staff performing non-deferrable essential visits (for example, child protection) to households with suspected/confirmed COVID-19, should follow the infection control precautions in this document.

8.6 Ambulances

In ambulances, patient segregation can be achieved by:

- designating an ambulance(s) for transfer of patients with suspected/confirmed COVID-19 for the duration of each shift;

- transporting coughing and sneezing patients on their own whenever possible. However, if pressure upon the service occurs, two patients with symptoms of COVID-19 may be transferred together and should wear a fluid-resistant (Type IIR) surgical mask (FRSM).

Depending on the stage of the pandemic and an assessment of risk, ambulance staff may be required to wear respiratory protective equipment (RPE). This will be determined locally.

8.7 Emergency departments and acute assessment units

Emergency departments and acute assessment units may be overwhelmed with patients seeking care during the peak of a pandemic. Alternative approaches to triage and initial assessment will be required to:

- rapidly screen and identify those who have symptoms of COVID-19 upon their arrival;
- separate symptomatic patients from others to reduce the risk of transmission; and
- determine as early as possible the type of care patients will require (i.e. see and discharge or admit for treatment).

8.7.1 Screening and triage

Signage should be displayed prior to and on entry to assessment units instructing patients with symptoms to inform reception staff immediately on their arrival.

A triage practitioner(s) should be based in the reception to manage patient flow, including deferral of patients who do not require emergency care.

8.7.2 Reception area

Patients with symptoms of COVID-19 should be triaged to a segregated waiting and assessment area immediately. Patients should be instructed to stay in this waiting area and not visit other departments or, parts of the hospital/unit, or go to public areas such as the cafeteria. Signage and physical barriers should be used as appropriate.

If separate areas for patients with symptoms of COVID-19 cannot be established, an alternative area/site should be set up for those at highest risk of complications from COVID-19 and who do not have respiratory symptoms (e.g. patients presenting for dialysis, patients with a history of

blood cell or organ transplantation, chemotherapy, or who are immunocompromised for other reasons).

Patients who do not have symptoms of COVID-19 but require prompt acute care assessment should be triaged to a specific waiting and examination area, physically separate from the COVID-19 waiting and assessment area.

8.7.3 Critical care

PPE must be worn:

- all respiratory equipment must be protected with a high efficiency filter (such as BS EN 13328-1). This filter must be disposed of after use
- disposable respiratory equipment should be used wherever possible. Re-usable equipment must, as a minimum, be decontaminated in accordance with the manufacturer's instructions
- a closed suctioning system must be used
- ventilator circuits should not be broken unless necessary
- ventilators must be placed on standby when carrying out bagging

8.7.4 Theatres (where these continue to be used for surgery)

It is recommended that ventilation in both laminar flow and conventionally ventilated theatres should remain fully on during surgical procedures where patients may have COVID-19 infection. Air can bypass filtration if a respirator is not fitted perfectly or becomes displaced during use. Those closest to aerosol generation procedures are most at risk. The rapid dilution of these aerosols by operating theatre ventilation will protect operating room staff. Air passing from operating theatres to adjacent areas will be highly diluted and is not considered to be a risk.

- theatres must be informed in advance of a patient transfer of a confirmed or possible COVID-19 positive case

- the patient should be transported directly to the operating theatre and should wear a surgical mask if it can be tolerated

- the patient should be anaesthetised and recovered in the theatre. Staff should wear protective clothing (see table 1) but only those within 1 m of an aerosol generating procedure, e.g. performing intubation, need to wear FFP3 respirators, long sleeved gowns, gloves and eye protection. Considerations about the use of respiratory/anaesthetic equipment are addressed in the critical care section above

- instruments and devices should be decontaminated in the normal manner in accordance with manufacturers' advice

- both laryngoscope handle and blade should either be single use or reprocessed in the Sterile Supply Department. Video laryngoscope blades should be single use and scope/handle decontaminated as per manufacture instructions.

- the theatre should be cleaned as per local policy for infected cases, paying particular attention to hand contact points on the anaesthetic machine

- possible or confirmed cases of COVID-19 should be placed at the end of the list where feasible

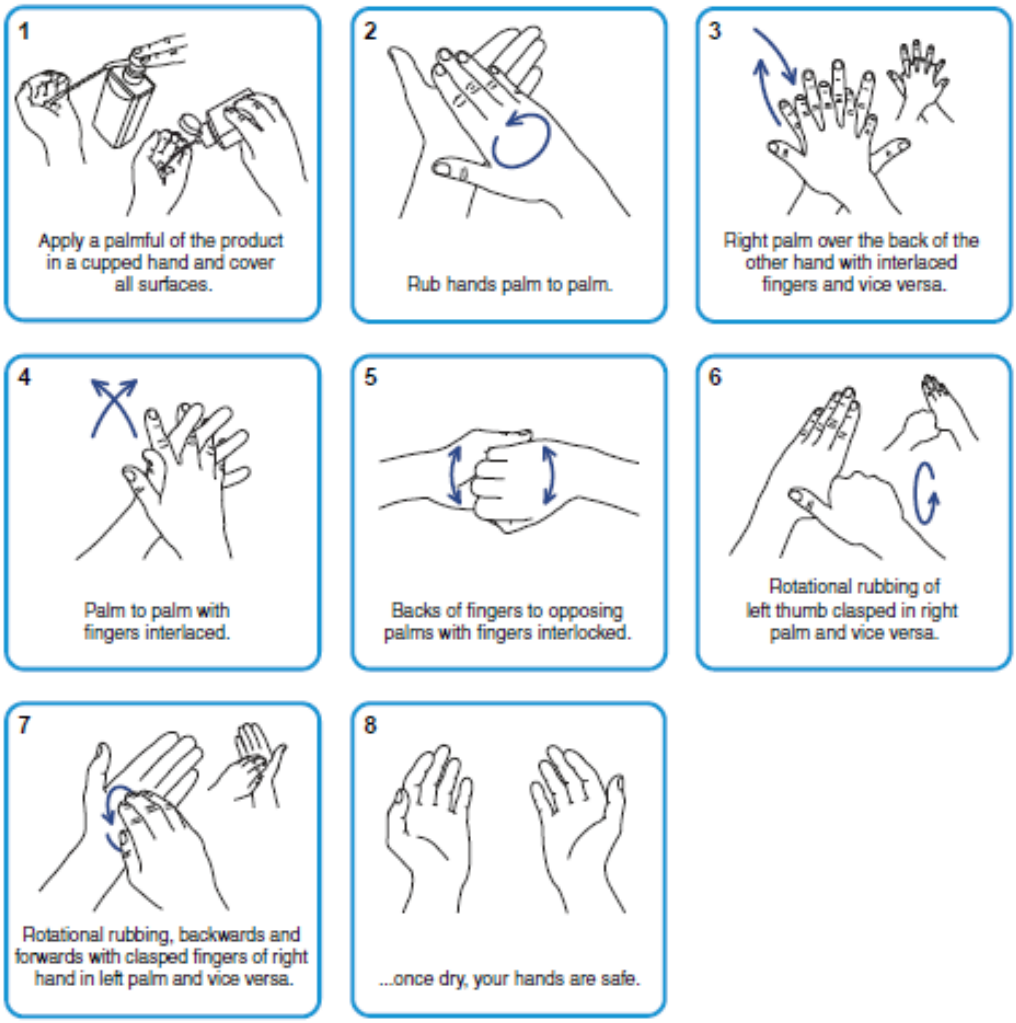
Appendix 1: Best practice how to hand wash

Steps 3-8 should take at least 15 seconds.

*Any skin complaints should be referred to local occupational health or GP.

Appendix 2: Best Practice How to hand rub

Duration of the process: 20-30 seconds.



Appendix 3: Best Practice - Putting on and taking off PPE

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

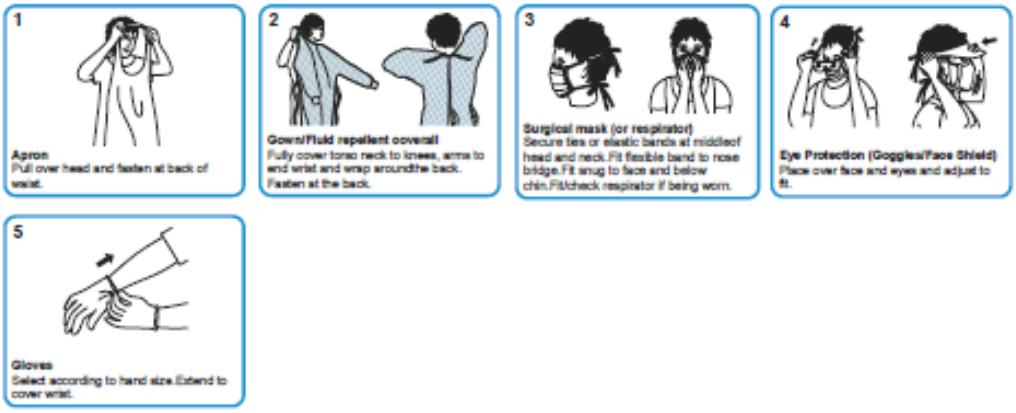
- Keep hands away from face and PPE being worn.
- Change gloves when torn or heavily contaminated.
- Limit surfaces touched in the patient environment.
- Regularly perform hand hygiene.
- Always clean hands after removing gloves.

NB Masks and goggles are not routinely recommended for contact precautions. Consider the use of these under standard infection control precautions or if there are other routes of transmission.

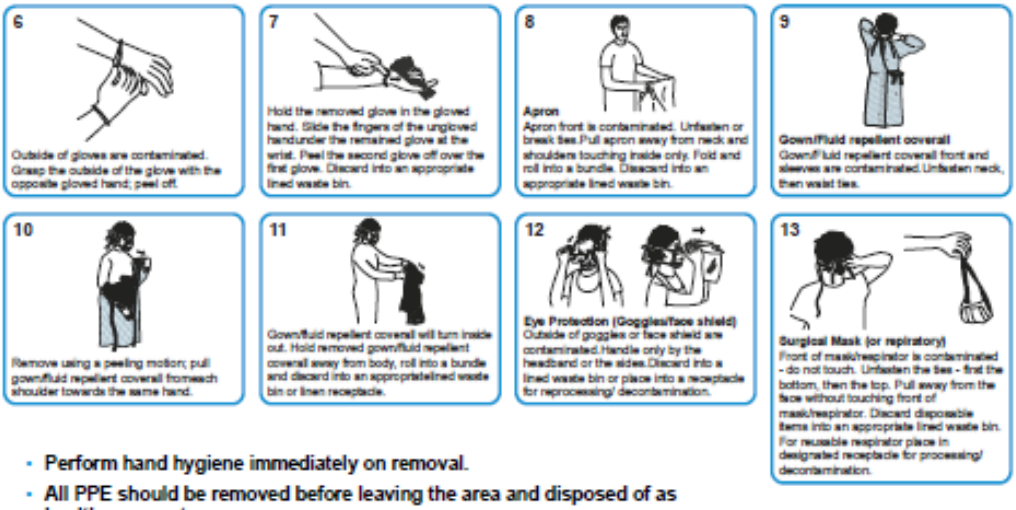
The type of PPE used will vary based on the type of exposure anticipated, and not all items of PPE will be required.
The order for putting on PPE is Apron or Gown, Surgical Mask, Eye Protection (where required) and Gloves.
The order for removing PPE is Gloves, Apron or Gown, Eye Protection, Surgical Mask.

1. Putting on Personal Protective Equipment (PPE).

- **Perform hand hygiene before putting on PPE**

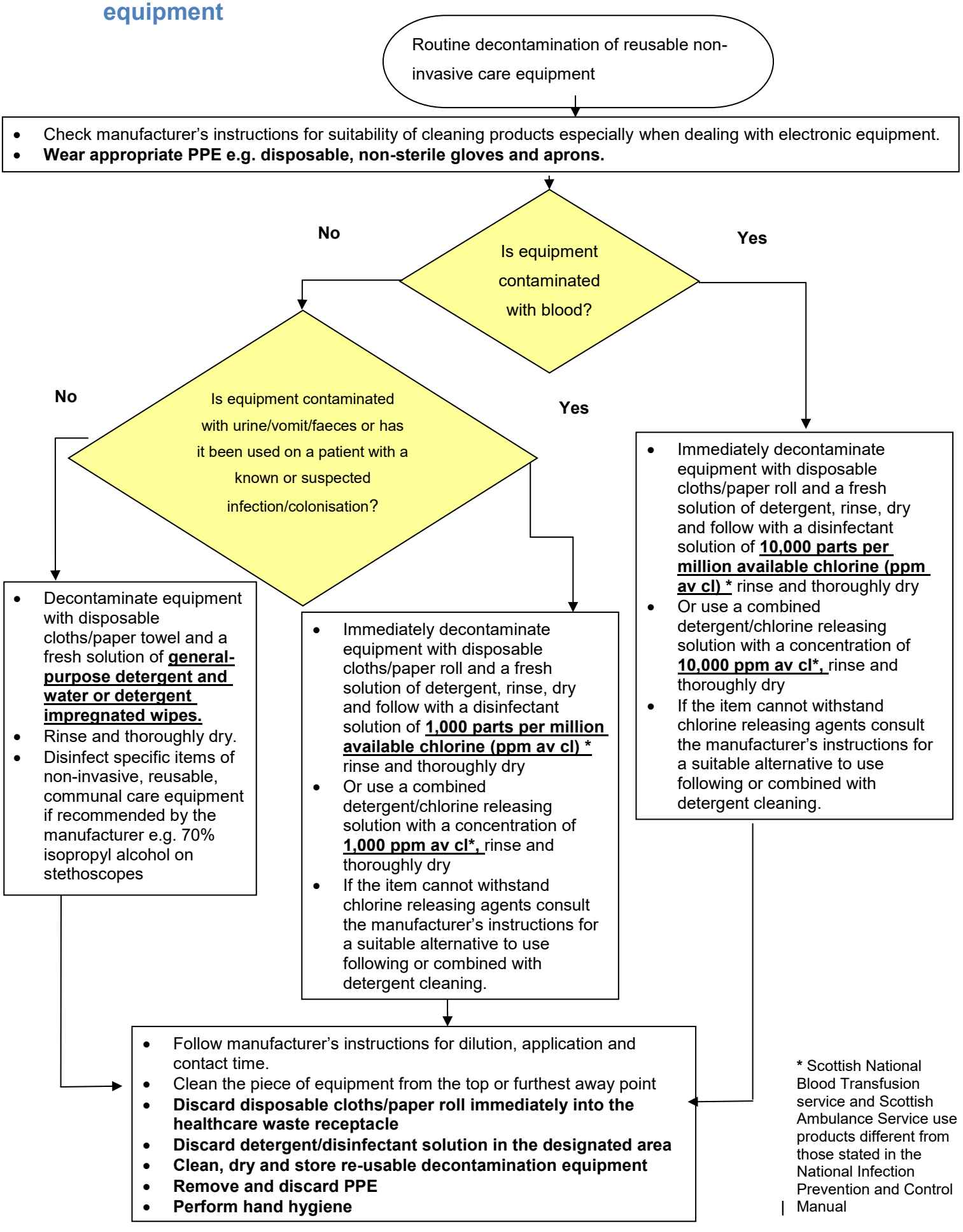


2. Removing Personal Protective Equipment (PPE)



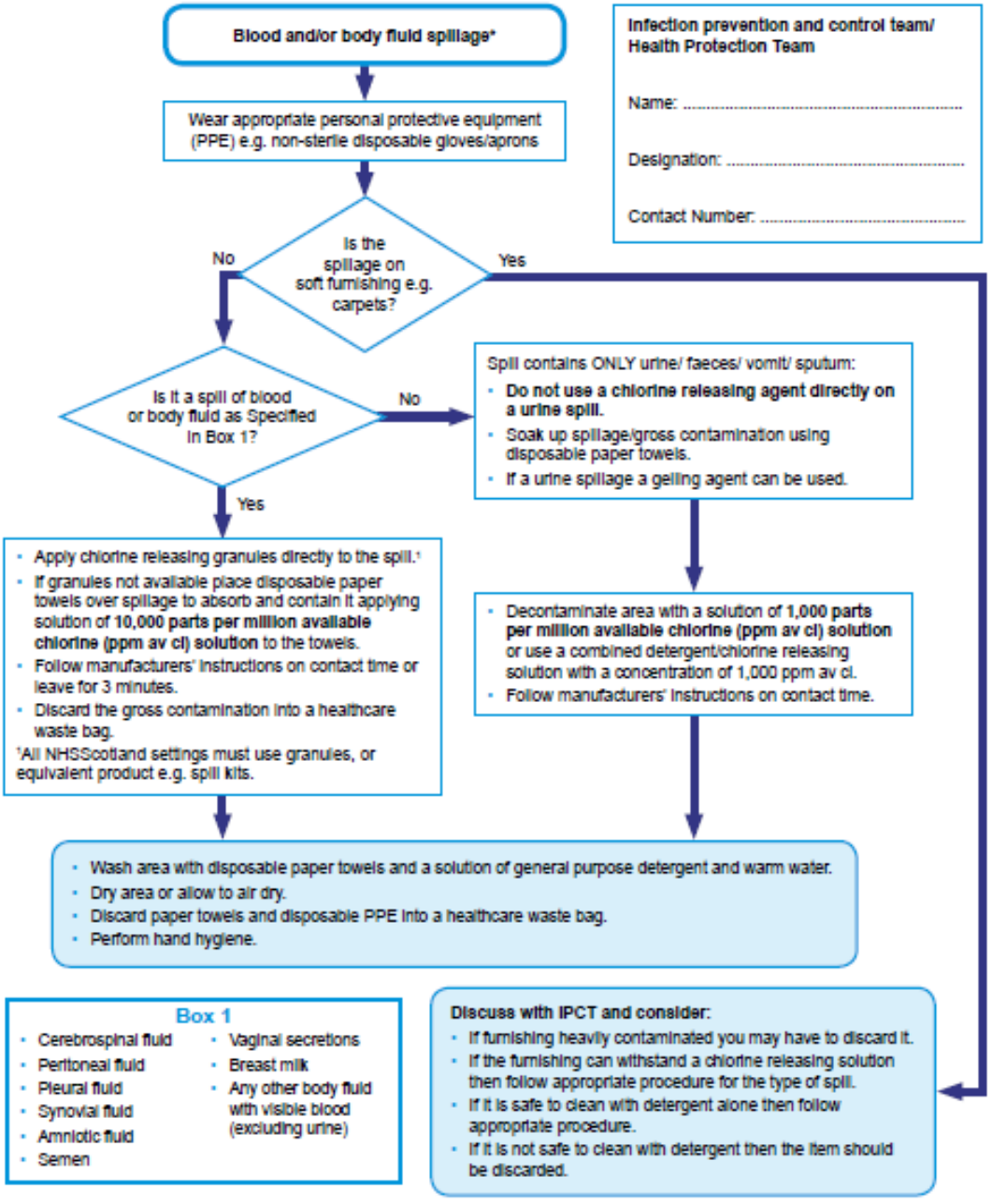
- **Perform hand hygiene immediately on removal.**
- **All PPE should be removed before leaving the area and disposed of as healthcare waste.**

Appendix 4: Routine decontamination of reusable non-invasive patient care equipment

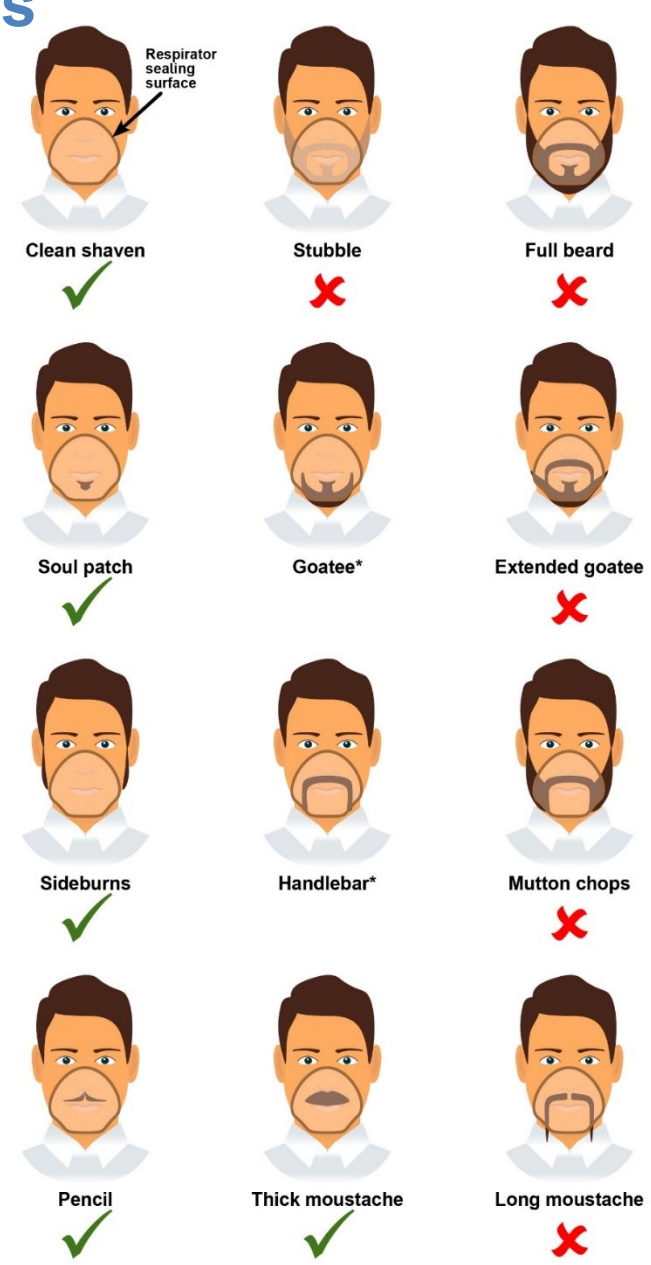


* Scottish National Blood Transfusion service and Scottish Ambulance Service use products different from those stated in the National Infection Prevention and Control Manual

Appendix 5: Best Practice - Management of blood and body fluid spillages



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.

Appendix 7 Glossary

Aerosol-generating procedures (AGPs)	Certain medical and patient care activities that can result in the release of airborne particles (aerosols). AGPs can create a risk of airborne transmission of infections that are usually only spread by droplet transmission.
Airborne Transmission	The spread of infection from one person to another by airborne particles (aerosols) containing infectious agents.
Airborne particles	Very small particles that may contain infectious agents. They can remain in the air for long periods of time and can be carried over long distances by air currents. Airborne particles can be released when a person coughs or sneezes, and during aerosol generating procedures (AGPs). “Droplet nuclei” are aerosols formed from the evaporation of larger droplet particles (see Droplet Transmission). Aerosols formed from droplet particles in this way behave as other aerosols.
Airborne precautions	Measures used to prevent and control infections spread without necessarily having close patient contact via aerosols (less than or equal to 5μm) from the respiratory tract of one individual directly onto a mucosal surface or conjunctivae of another individual. Aerosols can penetrate the respiratory system to the alveolar level.
BS/EN standards	Mandatory technical specifications created by either the British Standards Institute (BS) or European Standardisation Organisations (EN) in collaboration with government bodies, industry experts and trade associations. They aim to ensure the quality and safety of products, services and systems.

Cohort area	An area (room, bay, ward) in which two or more patients (a cohort) with the same confirmed infection are placed. A cohort area should be physically separate from other patients.
Contact precautions	Measures used to prevent and control infections that spread via direct contact with the patient or indirectly from the patient's immediate care environment (including care equipment). This is the most common route of infection transmission.
Contact transmission	Contact transmission is the most common route of transmission, and consists of two distinct types: direct contact and indirect contact. Direct transmission occurs when microorganisms are transmitted directly from an infectious individual to another individual without the involvement of another contaminated person or object (fomite). Indirect transmission occurs when microorganisms are transmitted from an infectious individual to another individual through a contaminated object or person (fomite) or person.
COVID-19	COVID-19 is a highly infectious respiratory disease caused by a novel coronavirus. The disease was discovered in China in December 2019 and has since spread around the world.
Droplet precautions	Measures used to prevent and control infections spread over short distances (at least 1 metre (3 feet) via droplets (greater than 5μm) 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.
Droplet transmission	The spread of infection from one person to another by droplets containing infectious agents.
Eye/Face protection	Worn when there is a risk from splashing of secretion (including respiratory secretions), eye/face protection can be achieved by the use of any one of the following: a surgical mask with integrated visor; a full face visor/shield; or

	polycarbonate safety spectacles or equivalent;
FFP3	Respiratory protection that is worn over the nose and mouth designed to protect the wearer from inhaling hazardous substances, including airborne particles (aerosols). FFP stands for filtering face piece. There are three categories of FFP respirator: FFP1, FFP2 and FFP3. An FFP3 respirator provides the highest level of protection, and is the only category of respirator legislated for use in UK healthcare settings.
Fluid-resistant (Type IIR) surgical face mask (FRSM)	A disposable fluid-resistant mask worn over the nose and mouth to protect the mucous membranes of the wearer's nose and mouth from splashes and infectious droplets. FRSMs can also be used to protect patients. When recommended for infection control purposes a 'surgical face mask' typically denotes a fluid-resistant (Type IIR) surgical mask.
Fluid-resistant	A term applied to fabrics that resist liquid penetration, often used interchangeably with 'fluid-repellent' when describing the properties of protective clothing or equipment.
Frequently touched surfaces	Surfaces of the environment which are commonly touched/come into contact with human hands.
High Consequence Infectious Disease (HCID)	In the UK, a high consequence infectious disease (HCID) is defined according to the following criteria: Acute infectious disease; typically has a high case-fatality rate; may not have effective prophylaxis or treatment; often difficult to recognise and detect rapidly; ability to spread in the community and within healthcare settings; and requires an enhanced individual, population and system response to ensure it is managed effectively, efficiently and safely.
Healthcare/clinical waste	Waste produced as a result of healthcare activities for example soiled dressings, sharps.

High risk units	Intensive care units, intensive therapy units and high dependency units.
Incubation period	The period between the infection of an individual by a pathogen and the manifestation of the illness or disease it causes.
Induction of sputum	Induction of sputum typically involves the administration of nebulised saline to moisten and loosen respiratory secretions (this may be accompanied by chest physiotherapy (percussion and vibration)) to induce forceful coughing.
Infectious linen	Linen that has been used by a patient who is known or suspected to be infectious and/or linen that is contaminated with blood and/or other body fluids e.g. faeces.
Long term health condition	Defined as: • Chronic obstructive pulmonary disease, bronchitis, emphysema or asthma • Heart disease • Kidney disease • Liver disease • Stroke or a transient ischaemic attack (TIA) • Diabetes • Lowered immunity as a result of disease or medical treatment, such as steroid medication or cancer treatment • Neurological condition, such as Parkinson's disease, motor neurone disease, multiple sclerosis (MS), cerebral palsy, or a learning disability • Problem with spleen, including sickle cell disease, or had spleen removed • A BMI of 40 or above (obese).
Negative pressure isolation room	A room which maintains permanent negative pressure i.e. air flow is from the outside adjacent space (e.g. corridor) into the room and then exhausted to the outdoors.

New and emerging viruses (including respiratory viruses)	The Centers for Disease Control and Prevention (CDC) defines emerging infectious diseases as: • New infections resulting from changes in or evolution of existing organisms. • Known infections spreading to new geographical areas or populations. • Previously unrecognised infections appearing in areas undergoing ecological transformation. • Old infections re-emerging as a result of antibiotic resistance in known agents or breakdown in public health measures.
Personal Protective Equipment (PPE)	Equipment a person wears to protect themselves from risks to their health or safety, including exposure to infection agents. The level of PPE required depends on: Suspected/known infectious agent; severity of the illness caused; transmission route of the infectious agent; and the procedure/task being undertaken.
Respiratory droplets	A small droplet, such as a particle of moisture released from the mouth during coughing, sneezing, or speaking.
Respiratory symptoms	'Respiratory symptoms' include rhinorrhoea (runny nose); sore throat; cough; difficulty breathing or shortness of breath.
Segregation	Physically separating or isolating from other people.
SARS-CoV	Severe acute respiratory syndrome coronavirus, the virus responsible for the 2003 outbreak of human coronavirus disease.
SARS-CoV-2	Severe acute respiratory syndrome coronavirus 2, the virus responsible for the 2019 outbreak of COVID-19 disease.
Standard infection control precautions (SICPs)	SICPs are the basic infection prevention and control measures necessary to reduce the risk of transmission of an infectious agent from both recognised and unrecognised sources of

	infection.
Single room	A room with space for one patient and usually contains as a minimum: a bed; locker/wardrobe; and a clinical wash-hand basin.
Staff cohorting	When staff care for one specific group of patients and do not move between different patient cohorts. Patient cohorts may include for example 'symptomatic', 'asymptomatic and exposed', or 'asymptomatic and unexposed' patient groups.
Transmission based precautions	Additional precautions to be used in addition to SICPs when caring for patients with a known or suspected infection or colonisation.

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