

Tell us whether you accept cookies

We use [cookies to collect information](#) about how you use GOV.UK. We use this information to make the website work as well as possible and improve government services.

Accept all cookies

Set cookie preferences



GOV.UK



Coronavirus (COVID-19): what you need to do

Stay at home

- Only go outside for food, health reasons or work (but only if you cannot work from home)
- If you go out, stay 2 metres (6ft) away from other people at all times
- Wash your hands as soon as you get home

Do not meet others, even friends or family.

You can spread the virus even if you don't have symptoms.

[Hide message](#)

[Home](#) > [COVID-19: infection prevention and control \(IPC\)](#)



Public Health
England

Guidance

Reducing the risk of transmission of COVID-19 in the hospital setting

Updated 4 April 2020

Contents

1. [Transmission based precautions](#)
2. [Duration of precautions](#)
3. [Patient placement - inpatient settings](#)
4. [Managing visitors](#)
5. [Moving and transferring patients](#)
6. [Critical care](#)
7. [Operating theatres \(where these continue to be used for surgery\)](#)
8. [Environmental decontamination](#)

- 9. Waste
- 10. Linen
- 11. Staff uniform
- 12. Management of equipment and the care environment
- 13. Environment
- 14. Handling dead bodies

1. Transmission based precautions

Transmission based precautions (TBPs) are applied when standard infection control precautions (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:

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 2 metres (6 feet) around the infected individual has frequently been reported in the medical literature as the area of risk. However, a precautionary approach is recommended and close contact has been defined as within 2 metres (approximately 6 feet) of a patient.

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 addition to SICPs, droplet precautions should be used for patients known to be or possibly infected with COVID-19 in all healthcare settings.

- COVID-19 virus is expelled as droplets from the respiratory tract of an infected individual (for example 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 2 metres has been used for deploying droplet precautions; however, this distance should be considered as the minimum rather than an absolute

2. Duration of precautions

For an individual patient, the duration that infection prevention and control precautions will need to be applied will depend on several factors:

2.1 Hand hygiene

Hand hygiene is essential to reduce the transmission of infection in health and other care settings. All staff, patients and visitors should decontaminate their hands with alcohol-based hand rub (ABHR) when entering and leaving areas where patient care 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. Refer to [5 moments for hand hygiene](#)

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

If wearing an apron rather than a gown (bare below the elbows), and it is known or possible that forearms have been exposed to respiratory secretions (for example cough droplets) or other body fluids, hand washing should be extended to

include both forearms. Wash the forearms first and then wash the hands.

2.2 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 (such as the elderly and children) may need assistance with containment of respiratory secretions; those who are immobile will need a container (for example a plastic bag) readily at hand for immediate disposal of tissues

2.3 Patient use of face masks

In common waiting areas or during transportation and where tolerable and appropriate in clinical areas, symptomatic patients may wear a surgical face mask. The aim of this is to minimise the dispersal of respiratory secretions and reduce environmental contamination. A surgical face mask should not be worn by patients if there is potential for their clinical care to be compromised (such as when receiving oxygen therapy).

3. Patient placement - inpatient settings

3.1 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 where capacity allows, and in high risk settings, patients with possible or confirmed COVID-19 may be isolated in negative pressure rooms.

3.2 Single rooms

Wherever possible, patients with possible or confirmed COVID-19 should be placed in single rooms. 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.

3.3 Cohort areas

If a single/isolation room is not available, cohort possible or confirmed respiratory infected patients with other patients with possible or confirmed COVID-19. 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
- 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
- routine childhood vaccination status when cohorting children

3.4 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 \(PPE\)](#).

4. Managing visitors

Visitors to all areas of the healthcare facility should be restricted to essential visitors only, such as parents of paediatric patients. 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.

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. Decisions to suspend or restrict visitors will depend on local circumstances and risk assessment. Limiting entry points to a facility will help manage local restrictions.

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 [extremely vulnerable patients](#).

5. Moving and transferring patients

5.1 Moving patients within the same hospital

- 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 possible or confirmed COVID-19
- if transport/movement is necessary, consider offering the patient a surgical face mask to be worn during transportation, to minimise the dispersal of respiratory droplets when this can be tolerated and providing this does not compromise clinical care
- 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

5.2 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 possible or confirmed COVID-19

5.3 Moving patients between different hospitals

Patient transfer from one healthcare facility 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. Critical care

- 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

7. Operating 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 2 metres of an aerosol generating procedure, such as 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

For patients with possible or 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. Once vacated by staff following an AGP, leave the room for 5 minutes before cleaning.

8. Environmental decontamination

There is evidence for other coronaviruses of the potential for widespread contamination of patient rooms or environments, so effective cleaning and decontamination is vital.

8.1 While the patient is in the room

Cleaning and decontamination should only be performed by staff trained in the use of the appropriate PPE; in some instances, this may need to be trained clinical staff rather than domestic staff, in which case, clinical staff may require additional training on standards and order of cleaning.

After cleaning with neutral detergent, a chlorine-based disinfectant should be used, in the form of a solution at a minimum strength of 1,000ppm available chlorine. If an alternative disinfectant is used within the organisation, the local infection prevention and control team (IPCT) should be consulted on this to ensure that this is effective against enveloped viruses.

The main patient isolation room should be cleaned at least once a day. Body fluid spills should be decontaminated promptly.

There should be more frequent cleaning and disinfection of commonly used hand-touched surfaces and of anteroom or lobby areas (at least twice per day).

To ensure appropriate use of PPE and that an adequate level of cleaning is undertaken which is consistent with the recommendations in this document, it is strongly recommended that cleaning of isolation areas is undertaken separately to the cleaning of other clinical areas.

Dedicated or disposable equipment (such as mop heads, cloths) must be used for environmental decontamination. Reusable equipment (such as mop handles, buckets) must be decontaminated after use with a chlorine-based disinfectant as described above. Communal cleaning trolleys should not enter the room.

8.2 Cleaning the room once the patient has been discharged or left the room

Clearance of aerosols is dependent on the ventilation and air change within the room. Once an end to dispersion can be defined (such as the patient leaving the room), a single air change is estimated to remove 63% of airborne contaminants and similarly with each subsequent air change. After 5 air changes, less than 1% of the original airborne contamination is thought to remain.

In an isolation room with 10 to 12 air changes per hour (ACH) a minimum of 30 minutes will reduce contamination to less than 1%. In a side room with 6 ACH, one hour would be a pragmatic time, allowing for aerosols settling out as well as being removed by ventilation.

Following transfer (recovery) and/or discharge of the patient, it is recommended that the room is left vacant with the door closed for 20 minutes in a negative pressure isolation room or one hour for a neutral pressure room prior to performing a terminal clean. Windows to the outside in neutral pressure rooms can be opened. If the room needs to be put back into use urgently, then it is recommended that the room is cleaned as in section 8.1.

Before entering the room, perform hand hygiene then put on a disposable plastic apron and gloves. If a risk assessment indicates that a higher level of contamination may be present or there is visible contamination with body fluids, then the need for additional PPE such as a fluid resistant surgical mask, and eye protection should be considered.

- collect all cleaning equipment and healthcare waste bags before entering the room
- the person responsible for undertaking the cleaning with detergent and disinfectant should be trained in the process
- remove all healthcare waste and any other disposable items
- bedding and bed screens, treat as infectious linen. Do not shake linen and avoid all necessary agitation
- patient care equipment should be cleaned according to manufacturer's instructions, and where possible with chlorine-based disinfectant, 70% alcohol or an alternative disinfectant used within the organisations that is effective against enveloped viruses. Where it is not readily amenable to cleaning, such as blood pressure cuffs, it should be disposed of to waste
- clean all surfaces, beds and bathrooms with a neutral detergent, followed by a chlorine-based disinfectant, in the form of a solution at a minimum strength of 1,000ppm available chlorine. If an alternative disinfectant is used within the organisation, the local IPCT should be consulted on this to ensure that this is effective against enveloped viruses
- dedicated or disposable equipment (such as mop heads, cloths) must be used for environmental decontamination and disposed as clinical waste
- reusable equipment (such as mop handles, buckets) must be decontaminated after use with a chlorine-based disinfectant as described above
- communal cleaning trolleys should not enter the room

9. 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.

10. Linen

No special procedures are required; linen is categorised as 'used' or 'infectious'.

All linen used in the direct care of patients with possible 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
- do not place used/infectious linen on the floor or any other surfaces such as a locker/table top
- do not re-handle used/infectious linen once bagged
- do not overfill laundry receptacles
- do not place inappropriate items, such as used equipment/needles, in the laundry receptacle

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 with ward/care area and date. Store all used/infectious linen in a designated, safe, lockable area whilst awaiting uplift.

11. Staff uniform

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 (for example, 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

Note: 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.

12. 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.

12.1 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
- 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

Avoid the use of fans that re-circulate the air.

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.

13. Environment

Patient isolation rooms, cohort areas and clinical rooms must be decontaminated at least daily. Clinical rooms should also be decontaminated after clinical sessions for patients with possible/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 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 to 12ACH a minimum of 20 minutes is considered pragmatic; in a side room with 6ACH this would be approximately 1 hour. Advice should be sought from the local IPCT.

An increased frequency of decontamination should be incorporated into the environmental decontamination schedules for areas where there may be higher environmental contamination rates:

- toilets/commodes particularly if patients have diarrhoea
- '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:

- ideally 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).

14. Handling dead bodies

The principles of SICPs and 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 possibly 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'](#)

Is this page
useful?

Yes

No

Is there anything wrong with this
page?

[Coronavirus \(COVID-19\): what you need to do](#)

Transition period

[Transition period: check how to get ready](#)

Services and information

[Benefits](#)

[Births, deaths, marriages and care](#)

[Business and self-employed](#)

[Childcare and parenting](#)

[Citizenship and living in the UK](#)

[Crime, justice and the law](#)

[Disabled people](#)

[Driving and transport](#)

[Education and learning](#)

[Employing people](#)

[Environment and countryside](#)

[Housing and local services](#)

[Money and tax](#)

[Passports, travel and living abroad](#)

[Visas and immigration](#)

[Working, jobs and pensions](#)

Departments and policy

[How government works](#)

[Departments](#)

[Worldwide](#)

[Services](#)

[Guidance and regulation](#)

[News and communications](#)

[Research and statistics](#)

[Policy papers and consultations](#)

[Transparency and freedom of information releases](#)

[Help](#) [Privacy](#) [Cookies](#) [Contact](#) [Accessibility statement](#) [Terms and conditions](#) [Rhestr o Wasanaethau Cymraeg](#)

Built by the [Government Digital Service](#)

OG

All content is available under the [Open Government Licence v3.0](#), except where otherwise stated



© Crown copyright

