

COVID 19: Respiratory Physiotherapy On Call Information and Guidance

This information is supplied as additional guidance to the respiratory physiotherapy on-call policy for patients requiring emergency out of hour's physiotherapy but could also be used for all therapists treating patients in frontline roles.

Background

A coronavirus is a type of virus. As a group, coronaviruses are common across the world. COVID 19 is a new strain of coronavirus first identified in Wuhan City, China.

On 31st December 2019, Chinese authorities notified the World Health Organisation (WHO) of an outbreak of pneumonia in Wuhan City, which was later classified as a new disease: COVID 19. On 30th January 2020, WHO declared the outbreak of COVID 19 a "Public Health Emergency of International Concern" (PHEIC). On 11th March 2020 COVID 19 was labelled a Pandemic.

The incubation period of COVID 19 is between 2 to 14 days. This means that if a person remains well 14 days after contact with someone with confirmed coronavirus, they have not been infected. Based on current evidence, the main symptoms of COVID 19 are a cough, a high temperature and, in severe cases, shortness of breath.

As it is a new virus, the lack of immunity in the population (and the absence as yet of an effective vaccine) means that COVID 19 has the potential to spread extensively. The current data seem to show that we are all susceptible to catching this disease, which includes the general public, patients and healthcare staff ¹

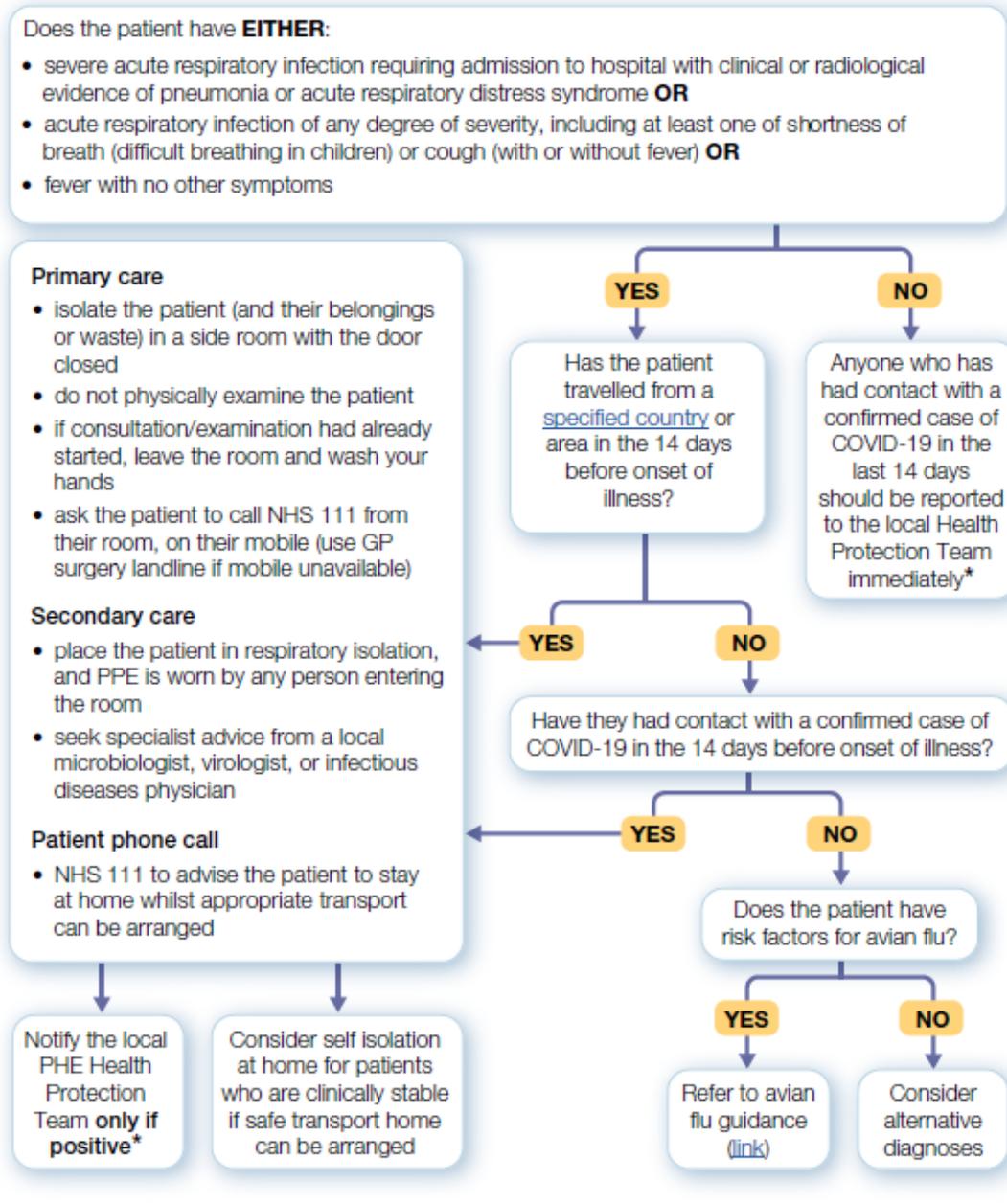
Among those who become infected, some will exhibit no symptoms² and those that do develop symptoms will have a mild-to-moderate³, but self-limiting illness – similar to seasonal flu⁴. However it is evident a minority of people who get COVID 19 will develop complications severe enough to require hospital care⁵, most often pneumonia. In a small proportion of these, the illness may be severe enough to lead to death⁶.

So far the data suggests that the risk of severe disease and death increases amongst elderly people and in people with underlying health risk conditions (in the same way as for seasonal flu)^{7 8}. Illness is less common and usually less severe in younger adults⁹

So far, there has been no obvious sign that pregnant women are more likely to be seriously affected^{10,11}

Public Health England (PHE) have provided a management pathway below:

Management of a suspected case of COVID-19



Planning and Protection

Fit mask testing is an essential part of pandemic planning. It will ensure the safety of staff treating suspected and positive COVID 19 patients. It is advised all staff should have had a recent fit mask test performed and be confident in the application of both the FFP3 (or equivalent) mask and Personal Protection Equipment (PPE):

Putting on (donning) personal protective equipment (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

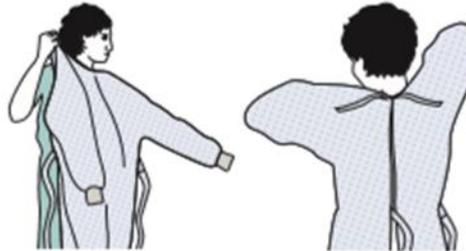
Pre-donning instructions

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

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

Perform hand hygiene before putting on PPE

- 1** Put on the long-sleeved fluid repellent disposable gown - fasten neck ties and waist ties.



- 2** Respirator.

Note: this must be the respirator that you have been fit tested to use. Where goggles or safety spectacles are to be worn with the respirator, these must be worn during the fit test to ensure compatibility



Position the upper straps on the crown of your head, above the ears and the lower strap at the nape of the neck. Ensure that the respirator is flat against your cheeks. With both hands mould the nose piece from the bridge of the nose firmly pressing down both sides of the nose with your fingers until you have a good facial fit. If a good fit cannot be achieved **DO NOT PROCEED**

Perform a fit check. The technique for this will differ between different makes of respirator. Instructions for the correct technique are provided by manufacturers and should be followed for fit checking

- 3** Eye protection - Place over face and eyes and adjust the headband to fit



- 4** Gloves - select according to hand size. Ensure cuff of gown covered is covered by the cuff of the glove.



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Removal of (doffing) personal protective equipment (PPE)

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

The FFP3 respirator must always be removed outside the patient's room.

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

The FFP3 respirator should be removed in the anteroom/lobby. In the absence of an anteroom/lobby, remove FFP3 respirator in a safe area (e.g., outside the isolation room).

All PPE must be disposed of as healthcare (including clinical) waste.

The order of removal of PPE is as follows:

1 Gloves – the outsides of the gloves are contaminated

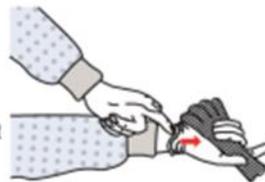
Firstly:

- grasp the outside of the glove with the opposite gloved hand; peel off
- hold the removed glove in gloved hand

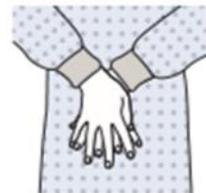


Then:

- slide the fingers of the un-gloved hand under the remaining glove at the wrist
- peel the remaining glove off over the first glove and discard



Clean hands with alcohol gel



2 Gown – the front of the gown and sleeves will be contaminated

Unfasten neck then waist ties



Pull gown away from the neck and shoulders, touching the inside of the gown only using a peeling motion as the outside of the gown will be contaminated



Turn the gown inside out, fold or roll into a bundle and discard into a lined waste bin



3 Eye protection (preferably a full-face visor) - the outside will be contaminated

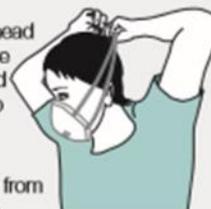
To remove, use both hands to handle the retraining straps by pulling away from behind and discard.



4 Respirator – In the absence of an anteroom/lobby remove FFP3 respirators in a safe area (e.g., outside the isolation room). Clean hands with alcohol hand rub.

Do not touch the front of the respirator as it will be contaminated

- lean forward slightly
- reach to the back of the head with both hands to find the bottom retaining strap and bring it up to the top strap
- lift straps over the top of the head
- let the respirator fall away from your face and place in bin



5

Wash hands with soap and water



It is important that all healthcare staff are fully protected when treating COVID 19 positive and suspected positive/high risk patients. This includes being fit tested with an FFP3 mask (or equivalent as needed). Please note fit test performance will be affected in individuals with facial hair therefore shaving is recommended to ensure full protection. There are local protocols available within trusts which are following the guidance from PHE¹²

As always, please ensure good practice with hand hygiene before and after patient contact, and also before entering and exiting any clinical area. When treating a COVID 19 positive patient you must be extra vigilant as this is a primary source of transmission.

Transmission based precautions - combined airborne, contact and droplet precautions

From what is known about other coronaviruses, spread of COVID 19 is most likely to happen when there is close contact (within 2 metres or less) with an infected person. It is likely that the risk increases the longer someone has close contact with an infected person.

Respiratory secretions produced when an infected person coughs or sneezes containing the virus are most likely to be the main means of transmission.

There are 2 main routes by which people can spread COVID 19:

- Infection can be spread to people who are nearby (within 2 metres) or possibly could be inhaled into the lungs.
- It is also possible that someone may become infected by touching a surface, object or the hand of an infected person that has been contaminated with respiratory secretions and then touching their own mouth, nose, or eyes (such as touching door knob or shaking hands then touching own face)

There is currently little evidence that people who are without symptoms are infectious to others.

PHE Guidance is to ensure a patient is cared for in either an isolation room with negative-pressure relative to the surrounding area or a neutral pressure single room. Both should have en-suite bathroom and toilet facilities, and preferably anterooms.

For confirmed COVID-19 cases

- Use of FFP3 respirators conforming to EN 149 for persons entering the room. Staff must be fit tested prior to using this equipment. These should be single use (disposable) and fluid repellent
- Use of long-sleeved disposable fluid-repellent gown
- Disposable gloves with long tight-fitting cuffs for contact with the patient or their environment
- Eye protection to be worn for all patient contacts

- Refrain from touching mouth, eyes or nose with potentially contaminated gloves

For in-patients meeting the COVID-19 case definition awaiting test results

- Staff should wear a fluid resistant surgical mask, single use disposable apron and gloves. Eye protection must be worn if blood and/or body fluid contamination to the eyes or face is anticipated or likely
- If any possible patient meeting the case definition undergoes an aerosol generating procedure (AGP), then a FFP3 respirator, long-sleeved disposable fluid-repellent gown, gloves and eye protection must be worn (this is advised for on call physiotherapy situations where AGP are likely)

This advice covers the period from initial identification of a patient with an epidemiological risk factor for COVID-19, through initial isolation, assessment, and the period of time until the test result is available. PHE will advise on further management for any confirmed cases.

It can be found here: <https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/wuhan-novel-coronavirus-wn-cov-infection-prevention-and-control-guidance>

Respiratory Physiotherapy and Aerosol generating procedures (AGP)

The agreed list of AGP from PHE is:

- Intubation, extubation and related procedures such as manual ventilation and open suctioning
- Tracheotomy/tracheostomy procedures (insertion/open suctioning/removal)
- Bronchoscopy
- Surgery and post-mortem procedures involving high-speed devices
- Some dental procedures (such as high-speed drilling)
- Non-invasive ventilation (NIV) such as Bi-level Positive Airway Pressure (BiPAP) and Continuous Positive Airway Pressure ventilation (CPAP)
- High-Frequency Oscillating Ventilation (HFOV)
- High Flow Nasal Oxygen (HFNO), also called High Flow Nasal Cannula
- Induction of sputum (this may be required if lower respiratory tract sputum samples are required ¹³)

Note: Administration of medication via nebulisation is not an AGP. 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.

With regards to specific respiratory physiotherapy this also includes:

- Manual techniques (eg percussion/manual assisted cough) that may lead to coughing and expectoration of sputum
- Use of positive pressure breathing devices (eg IPPB), mechanical insufflation-exsufflation (cough assist) devices, intra/extra pulmonary high frequency oscillation devices (eg The Vest/MetaNeb/Percussionaire etc)
- Any mobilisation or therapy that may result in coughing and expectoration of mucus
- Any diagnostic interventions that involve the use of video laryngoscopy that can result in airway irritation and coughing (eg direct visualisation during airway clearance techniques or when assisting speech and language therapists performing fiberoptic endoscopic evaluation of swallow)

Where AGPs are medically necessary, they should be undertaken in a negative-pressure room, if available, or in a single room with the door closed. Only the minimum number of required staff should be present, and they must all wear [PPE as described](#). Entry and exit from the room should be minimised during the procedure.

Decontamination Advice

Equipment

- Re-useable equipment should be avoided if possible; if used, it should be decontaminated according to the manufacturer's instructions before removal from the room. If it is not possible to leave equipment inside a room then follow IPC guidelines on decontamination. This usually involves cleaning with neutral detergent, then a chlorine-based disinfectant, in the form of a solution at a minimum strength of 1,000ppm available chlorine (e.g "Haz-Tab" or other brand).
- If possible use dedicated equipment in the isolation room. Avoid storing any extraneous equipment in the patient's room
- Dispose of single use equipment as per clinical waste policy inside room
- Point of care tests, including blood gas analysis, should be avoided unless a local risk assessment has been completed and shows it can be undertaken safely
- Ventilators and mechanical devices (eg cough assist machines) should be protected with a high efficiency viral-bacterial filter. Filters should be placed at the machine end and the mask end before any expiratory or exhalation ports
- When mechanical airway clearance devices are used filters should be changed when visibly soiled or every 24 hours and complete circuit changes should be undertaken every 72 hours (or follow trust guidance)
- Closed system suction should be used if patients are intubated or have tracheostomies

- Disconnecting a patient from mechanical ventilation should be avoided at all costs but if required the ventilator should be placed on standby
- Manual hyperinflation (bagging) should be avoided if possible and attempt ventilator recruitment manoeuvres where possible and required
- Water humidification should be avoided, and a heat and moisture exchanger should be used in ventilator circuits
- Disposable crockery and cutlery may be used in the patient's room as far as possible to minimise the numbers of items which need to be decontaminated
- Any additional items such as a stethoscopes, pulse oximeters, ultrasound probes taken into a room will also need to be disinfected, regardless of whether there has been direct contact with the patient or not. This is due to the risk of environmental contamination of the equipment within the isolation room

Patients Rooms

- If AGPs are undertaken in the patient's own room, the room should be decontaminated 20 minutes after the procedure has ended (please follow trust IPC guidance on this also).
- If a different room is used for a procedure it should be left for 20 minutes, then cleaned and disinfected before being put back into use.
- Clearance of any aerosols is dependent on the ventilation of the room. In hospitals, rooms commonly have 12 to 15 air changes per hour, and so after about 20 minutes, there would be less than 1 per cent of the starting level (assuming cessation of aerosol generation).
- If it is known locally that the design or construction of a room may not be typical for a clinical space, or that there are fewer air changes per hour, then the local IPCT would advise on how long to leave a room before decontamination.

Sputum Samples

- All sputum specimens and request forms should be marked with a biohazard label.
- The specimen should be double-bagged. The specimen should be placed in the first bag in the isolation room by a staff member wearing recommended PPE.
- Specimens should be hand delivered to the laboratory by someone who understands the nature of the specimens. Pneumatic tube systems must not be used to transport specimens.
- Transport of samples between laboratories should be in accordance with Category B transportation regulations. PHE follows the guidance on regulations for the transport of infectious substances 2019 to 2020.

On Call and Pregnancy

All healthcare professionals (HCPs) should undergo a risk assessment as early in their pregnancy as possible and all reasonable and practical measures are taken to avoid or reduce hazards to new and expectant mothers. This is particularly important for physiotherapists who participate in an emergency on call rota where they are required to attend unwell patients with acute respiratory compromise. In the event of pandemic or highly infectious patients it is common sense to limit exposure of pregnant HCPs but sometimes this is unavoidable and full precautions should be taken (as above). If there is any concern at all that a patient may have had exposure to a COVID 19 positive patient or they are awaiting tests results then it would be advised for to wear full PPE in the event of on call emergency physiotherapy.

So far, there has been no obvious sign that pregnant women are more likely to be seriously affected^{10,11}

At present there is no need for pregnant physiotherapists to be removed from on call or evening rota patterns (unless identified in their individual risk assessment) but a common sense approach is expected as well as communication with IPC teams and occupational health departments as needed.

There has been specific guidance for healthcare professionals published by the Royal College of Obstetricians and Gynaecologists , Royal College of Midwives and Royal College of Paediatrics and Child Health, with input from the Royal College of Anaesthetists, Public Health England and Health Protection Scotland.

<https://www.rcm.org.uk/media/3780/coronavirus-covid-19-virus-infection-in-pregnancy-2020-03-09.pdf>

On Call Respiratory Physiotherapy Advice

- If you are called to see a patient newly admitted into the hospital through the emergency department or medical assessment unit with a fever, cough and/or shortness of breath ensure you ask if COVID 19 has been suspected
- If the patient is positive please ensure that emergency on call physiotherapy is indicated. Many patients presenting with COVID 19 will have no specific airway clearance needs. It is important that staff contact is kept to a minimum with positive patients to help reduce the risk of transmission (follow usual on call policies and criteria)
- COVID 19 patients (to date) who require hospitalisation are presenting with pneumonia features and bilateral patchy shadows or ground glass opacity in the lungs^{13, 14} There have not been reports that COVID 19 positive patients have high secretion loads requiring intensive respiratory physiotherapy/airway clearance. This may change as things evolve and for that reason all presenting patients should be discussed with Consultant Respiratory

Physicians/Critical Care Consultants before any mechanical devices are used with patients and trust guidance on this followed

- There may be patients with existing respiratory conditions who require personalised physiotherapy treatments which may include mechanical airway clearance or oscillating devices. In this scenario it is important that the risk and benefit of continuing with the regime is discussed with Consultant Respiratory Physicians/Critical Care Consultants. It may be decided that airway clearance regimes are continued in this scenario ensuring COVID 19 suspected/positive patients are managed in isolation and full PPE and decontamination advice followed above
- If on call physiotherapy is indicated then you must follow strict guidance above
- If on call physiotherapy is not indicated offer advice and to call back if retained secretions become problematic
- If a patient has a suspected case (not confirmed) and requires on call physiotherapy then full PPE (including face masks and eye shields) are essential
- It is recommended that if medical devices are required to treat patients they remain in the same room but if this is not possible please follow advice above (there may be trust specific advice on this and dependent on number of
- It is recommended that you treat positive and suspected positive COVID 19 patients in hospital scrubs rather than your uniform so this can be left in the hospital and laundered and you can change back into your uniform for the rest of your on call shift or personal clothes if travelling home. It is also recommended that you wear shoes that can be wiped clean (eg leather) rather than fabric type trainers.
- If you are on call and needing to treat COVID 19 positive or suspected patients then you need to follow trust guidance on self-decontamination between wards (this will usually involve wearing scrubs and full PPE with infected patients/wards and changing into clean uniform/scrubs to visit non-infected wards). Again hand hygiene is imperative
- With regards to ward based working if areas are being cohorted with COVID 19 positive patients it is common sense to assign a daily physio to those areas to avoid potential transmission of the virus. As part of long term resilience planning this may need to be allocated on a rotational basis ensuring that correct skill set is achieved to treat patients in these areas
- If physiotherapists are being deployed onto ward areas that would not normally work in such an environment it is important this is planned carefully. Physiotherapists need the correct knowledge, skills, competencies and confidence to treat patients who have complex respiratory conditions and are acutely unwell. It is not recommended that physiotherapists without these skills should work in an acute respiratory ward environment or on call. Local protocols for the redeployment of physiotherapy staff should be followed.

- If you have a condition which makes you more at risk of contracting a communicable disease (eg immunocompromised) then you should refer to your individual risk management plan and speak with your on call lead/occupational health and/or IPC team
- If you treat a patient (without PPE) who goes on to test positive for COVID 19 and you have had significant exposure (especially during AGP) then you should follow your trust IPC guidelines, contact occupational health and follow advice. This would normally involve self-isolation and monitoring.

PHE guidance if someone has exposure to a known COVID 19 patient is:

- Contact your [local health protection team](#)
- Those who have had close contact will be asked to self-isolate at home for 7 days from the last time they had contact with the confirmed case and follow the [Stay at Home Guidance](#)
- They will be actively followed up by the Health Protection Team
- If they develop new symptoms or their existing symptoms worsen within their 7 day observation period they should call NHS 111 for reassessment
- If they become unwell with cough, fever or shortness of breath they will be tested for COVID 19
- If they are unwell at any time within their 14 day observation period and they test positive for COVID 19 they will become a confirmed case and will be treated for the infection

More information for employers can be found [here](#)

It is advised you talk with your line manager and on call respiratory physiotherapy lead should you have further concerns you would like clarity on.

Please remain mindful that this is an evolving situation, and any updates will be provided through communications briefings as PHE guidance develops. You should stay in close communication with line managers, on call leads, respiratory and critical care teams and read trust specific and PHE updates.

This document will be updated and amended with emerging advice; evidence and opinion so please bear this in mind. It can be used in its original form or adapted for local use by other trusts. This is not designed to be guidance for all but it has been developed for the on call respiratory physiotherapy team at Lancashire Teaching Hospitals in discussion with Respiratory Consultants and other health care professionals. It may not be appropriate for your trust and local discussions and decisions should be made in your own trust.

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