

## Guidance for community management of patients receiving Long-Term Ventilation (LTV) during and beyond COVID-19

*Please note; this guidance is purely a consensus statement based on advice from NHS England (NHSE) and expertise within the long-term ventilation clinical community. It does not substitute recommendations made by the local long-term ventilation service. Please clarify any aspects of clinical management with the service who oversees the patient's LTV care.*

*The guidance will continue to be updated as the knowledge base and expert experience develops.*

Long Term Ventilation (LTV) services provide specialist care and support for patients who require long-term ventilation (invasive or non-invasive) outside of the traditional inpatient setting. This is for a range of medical conditions characterised by chronic respiratory failure. All patients under the care of such teams are especially vulnerable to respiratory pathogens due to their limited breathing reserve. Some require complex care input to maintain independence in a community setting, and this is delivered by dedicated teams of private community care providers.

The points below are designed to give some brief guidance for the management of community invasive and non-invasive ventilation in the context of the current COVID-19 pandemic. It will also aim to address continuation and restart of services that have experienced a period of interruption during the pandemic. The guidance is not intended to be prescriptive, and close liaison with the hospital based LTV teams is still required.

The guidance is divided into three sections:

1. Clinical recommendations for patients in the community
2. Personal Protective Equipment advice
3. Service delivery considerations

### **1. Clinical recommendations (if the patient is suspected or confirmed as being COVID positive):**

- Non-vented masks and leak ports have been adapted for use in the acute hospital setting in patients who are confirmed as having Coronavirus. This is to allow appropriate placement of a bacterial / viral filter. Whilst a LTV patient may be changed to this configuration if they are admitted to hospital, we do not believe this is an appropriate change to make in the community. The rationale for this recommendation is as follows:
  - There is an important training requirement with the introduction of any new equipment. Currently, the LTV teams are unable to support that level of instruction. This could lead to the incorrect circuit and mask configuration being applied, and result in potential harm to the patient.
  - This mask type would only be applicable if the patient is using an oro-nasal type of interface; many LTV patients prefer a nasal interface.

- There are far fewer non-vented masks available, and often designed for short-term use. In the patients who use non-invasive ventilation (NIV) for long periods, this could result in unnecessary pressure damage to the skin on the nasal bridge.
- Active respiratory 'wet' humidification can increase the risk of viral spread in COVID positive patients. In non-invasive (mask) ventilation, and if clinically appropriate, humidification could be stopped. Stopping the humidification may have clinical implications; a risk assessment would therefore be required. In tracheostomy ventilation, the risk of stopping humidification is greater - see note below.
- Reduce frequency of routine mechanical insufflation-exsufflation if clinically safe to do so.
- If a bacterial filter is used on the ventilator outlet, it should be replaced in accordance with local policy. If there are issues around re-supply, the bacterial filter may be removed without adversely affecting ventilator performance.

#### **Ventilation via tracheostomy:**

- If it is safe to do so, routine tracheostomy tube changes can be extended up to three monthly. If the routine change is usually conducted in hospital setting, extending the frequency of the tube change will reduce visits to hospital. If performed by the care team at home, this will reduce unnecessary exposure to care staff or issues regarding availability of replacement tubes. This needs to be individually assessed based on clinical need.
- Frequency of routine ventilator circuit changes can be extended to avoid issues with provision of consumables.
- Active (heated) respiratory humidification may increase the risk of viral spread in COVID positive patients. However, removing the active humidification may increase the risk of mucus plugging or tracheostomy tube blockage. Before stopping active humidification, an appropriate risk assessment must be performed to ensure the safety of the patient, carers and family. If active humidification is removed then it is essential that passive humidification via a Heat Moisture Exchange (HME) filter is provided.

#### **General advice if suspected or confirmed Coronavirus, but hospital admission is not indicated:**

- The patient should be cared for (where possible) in only one room in the property. Having a window open and door closed during, and for an hour after ventilation will help reduce potential viral load.
- Any other family members in the property must also isolate for 14 days as per national guidelines
- Full PPE must be worn by the carers when entering the room
- The amount of time the carer needs to spend in the room should be limited as much as possible and safe to do. Other forms of observation / communication e.g. intercoms, mobile phones, extended alarm systems, should be utilised where appropriate, rather than repeatedly entering or spending time in the room.
- When possible, deliver care during self-ventilation periods.
- If practical, the room the patient is receiving an AGP should be surface cleaned twice daily. Ideally, this should not take place when an AGP is in use, or one hour following use. If that

cannot be avoided, enhanced PPE will be required to clean the room. During any period of AGP inactivity, airflow in the room should be maximised by opening windows.

- Where possible, care agencies should minimise the number of carers assigned to each package, to aim to keep the same people attending each property.
- Regularly wipe down hard surfaces in the room where the ventilator is used with a disinfectant wipe.
- Strict adherence to frequent and appropriate hand hygiene is essential.
- Limit visits to the property to only those absolutely essential.
- If at all possible, other household members to be in another room if external carers are in the property.

## 2. Personal Protective Equipment (PPE)

The link below is the Public Health England guidance on use of PPE for clarity of national recommendations:

<https://www.gov.uk/government/publications/wuhan-novel-coronavirus-infection-prevention-and-control/covid-19-personal-protective-equipment-ppe>

The following link is specifically related to recommendations in settings other than hospital:

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/877599/T2\\_Recommended\\_PPE\\_for\\_primary\\_outpatient\\_and\\_community\\_care\\_by\\_setting\\_poster.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/877599/T2_Recommended_PPE_for_primary_outpatient_and_community_care_by_setting_poster.pdf)

### PPE recommendations:

Non-invasive ventilation (NIV), Mechanical Insufflation-Exsufflation (cough assist) use, CPAP and tracheostomy care are all considered to be Aerosol Generating Procedures (AGP). Therefore, if a patient is **confirmed or suspected** to have Coronavirus, appropriate protection for those delivering any care to this patient group should be in place.

- Enhanced PPE includes: FFP3 masks, gloves, long sleeve gowns, and eye protection. This should be made available for the carer to use when delivering any care to the patient whilst they are using NIV, Cough Assist or CPAP, or when tracheostomy care / tracheal suction is being performed and for one hour after when in a closed environment.
- Standard PPE includes: apron, gloves and surgical mask. This should be used in the context of any direct care or visit to any individuals in the extremely vulnerable / shielding group.
- Family members who share the same household as the patient should be regarded as one unit and as such, use same level of protection they would normally. However, careful consideration should be applied in terms of any contact with the patient if there are other members of the family who would be classed as vulnerable.

**Please see the link above for specific recommendations from Public Health England which will advise what combination of PPE is required.**

## PPE availability and provision

There have been concerns raised about the availability and supply of PPE equipment available to care teams in the community setting. If you are unable to access the appropriate PPE, please report this using the form in the link below. This link will take you to the Royal College of Physicians website. On completion of the form, the collected information will be passed on to the NHS and government. <https://www.rcplondon.ac.uk/news/cpr-personal-protective-equipment-and-covid-19>

Also, if a care provider is unable to get PPE from their normal supplier, the supplier will be asked to report this to the National Supply Disruption Response team (see below), who can advise on alternative suppliers.

The National Supply Disruption line:

Tel: 0800 915 9964

Email: [supplydisruption@nhsbsa.nhs.uk](mailto:supplydisruption@nhsbsa.nhs.uk)

**These recommendations are based on Public Health England (PHE) guidance and expert opinion. The document is not designed to replace local policies and infection control guidance, and variations may be required depending on the requirements of individual patients. The purpose of these recommendations is to support care providers working in the home / community setting, and they are not designed to cover secondary care or primary care settings.**

### 3. Service delivery

- Although the changes to current care pathways to telephone and video consultation require formal qualitative and quantitative evaluation, they are likely to continue where appropriate.
- There will inevitably be the requirement for some face-to-face contact with patients – new patient assessment where objective measures are required, sensitive communications e.g. End of life care planning and for treatment initiation.
- Where available, remote monitoring on ventilators and monitors should be used. There will be a requirement to develop support and educational resources to be delivered with monitoring devices for patient / carer use, when face-to-face training has not taken place.
- The change in ventilator circuitry (non-vented mask, expiratory port, bacterial / viral filter) for LTV patients during hospital admission will remain unless the patient has a negative COVID swab and is admitted to non-COVID area.
- While we remain in the endemic phase, it would be wise to continue to limit the initiation of treatment with mechanical insufflation-exsufflation unless in the context of admission avoidance or acute management.
- Patients who are ventilator-dependent should be particularly mindful of self-isolating if they get symptoms related to COVID-19 as NIV is an Aerosol Generating Procedure and could increase the spread of the virus.

- There will continue to be restrictions for carers and families visiting a patient during hospital admission. The only circumstance where this MAY be possible would be an LTV patient admitted without concern about COVID-19, a negative swab, ongoing shielding prior to admission and a carer who would stay throughout the admission to provide a safe level of necessary 1:1 care.

#### Face-to-face consultations:

It is recommended that all patients be screened for COVID signs / symptoms before conducting any face-to-face clinical assessment. Consider:

- Asking the patient to isolate for 14 days prior to the face-to-face consultation.
- If time allows, the patient to be swabbed prior to attending.
- Taking the patient's temperature on arrival.

Do not establish patients on treatment (AGP) who may be COVID positive, unless not doing so would place them at risk of immediate clinical deterioration.

Similar PPE precautions to those detailed above, and in line with PHE guidance, remain unchanged.

- If there is a plan to directly initiate NIV or tracheostomy ventilation then PPE appropriate for AGP must be worn (FFP3 respirator, long-sleeved gown, gloves, eye protection) as per PHE recommendations.
- Continue to turn the machine on after the mask is placed on the patient, or the circuit connected to the tracheostomy tube, and off before removing mask / disconnecting.
- Consider the environment 'turn around' time required in-between patients. The room will require a one-hour period of inactivity (dependent upon the number of room air changes) then disinfectant cleaning of all surfaces, if an AGP has been used.
- If possible, initiation of NIV in the hospital setting should be performed in a negative pressure environment, but always in a side-room where negative pressure room is not available.

#### Elective admissions:

Patients admitted for elective surgery, who are swab negative prior to admission, low risk of COVID due to current shielding and free of symptoms, are considered low risk. Provided this is in line with local Infection Prevention and Control policy, they could continue to use their home ventilation or CPAP equipment, but where possible, continue to avoid the delivery of an AGP in an open bay. Full PPE (inc FFP-3 face mask) would still be required.

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ARTP COVID 19 group

**The guidance has also been endorsed by representatives from the Specialist in Long-term Ventilation at Home (SiLVaH) network and the Association of Chartered Physiotherapists in Respiratory Care (ACPRC)**

