Intrahospital transfer of COVID-19 positive and suspected COVID-19 positive patients from the emergency department

This document provides the framework to optimise safety of patients, staff and bystanders when transferring patients from the emergency department (ED) to the intensive care unit (ICU) or hospital wards, during the COVID-19 pandemic. It should be used to inform local policies and procedures, which should be current and reviewed regularly.

Key principles

- **Involvement of senior staff**: Transferring patients must be coordinated at a senior clinician level, with a clear agreement of which specialty team will be transporting the patient from the ED to the ICU or ward. A discussion between a senior ED clinician and senior clinician from the receiving ward should take place to outline the safest and most appropriate mode to transfer (e.g. intubated, non-invasive ventilation (NIV) via transport ventilator, non-rebreather mask (NRM), Hudson mask (HM) and nasal prongs (NP)).

- **Communication**: Staff should communicate with the patient (if able) to discuss how the transport will proceed. This will prevent patient distress during the transfer.

- **Safety**: Consideration must be taken to ensure safety of the patient, nursing and medical staff, transport staff and potential bystanders. A contingency plan should be made for medical emergencies during transport, which should be discussed with the team prior to the transport. Ensure that all equipment, infusion and equipment lines are secure.[1-4]

- **Personal protection**: All staff involved in the transport, or in close contact with patients being transferred, must be fully vaccinated. They must also implement full airborne, droplet and contact personal protective equipment (PPE) (gloves, fluid-resistant gown, P2/N95 mask and eye protection) that have been fit-tested and fit-checked.[3,5]

- **Planning**: Use a pre-planned, dedicated route. Patient transfers should use the shortest and safest route that minimises contact with the general hospital population, including clinicians (e.g. a dedicated lift service or external path). Map out and plan a 'routine' pathway for patient transfer between departments and one that will prevent collisions with other patient transports and transfers.

- **Use of lifts**: When using a lift to transfer a patient, only essential staff should be in the lift. If possible, place lift into 'independent service' mode to ensure the lift is not stopped and accessed by other users. Time spent in a lift must be with only essential staff, wearing full airborne, droplet and contact PPE.[3,6]

- **Clearing the transfer route**: Utilise a 'clean' runner (this is a staff member that has not been in contact with a COVID-19 positive or suspected patient). They will ensure the pre-briefed route is clear of bystanders; will push elevator buttons and open doors; and clear the hallway of visitors, patients and clutter. Consider utilising security staff to assist in clearing the route of bystanders before the transport.[4]

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Intubated patients

- For intubated patients when transferring from bag valve mask (BVM) OR ventilator to ventilator:

  – Ensure circuit assembled correctly (closed suction > heat moisture and exchange filter (HMEF) > end tidal carbon dioxide ($ETCO_2$) > flex tube)

  – Inspiratory hold or O_2 flow to bag valve mask (BVM) OFF > clamp endotracheal tube +/- ventilator to standby

  – Disconnect from bag or ventilator at flex tube and connect to ventilator circuit

  – Unclamp endotracheal tube

  – Commence ventilation

  – Confirm ventilation (end tidal carbon dioxide ($ETCO_2$))

  – Ensure tube tied, pilot balloon inflated and all circuit connections tight.[7]

- Apply a viral filter to the expiratory limb of ventilator circuit (only needed if there is no HMEF).

Non-intubated patients

- Non-intubated patients include: patients with NIV, high flow nasal oxygenation (HFNO), NRM, HM or NP.

- If possible, take patients off NIV and transport on Hudson mask or nasal prongs (4-6L/min) or NRM (10/15L/min). Take into consideration that patients stabilised on NIV could deteriorate en route due to loss of positive end-expiratory pressure (PEEP), and that more than 4-6L/min O_2 delivery is considered an aerosol generating procedure (AGP). In this instance, intubation may be the preferred option, however if a patient is dependent on NIV the default is not intubation.

- For a select group of patients, it is most appropriate that NIV is maintained and the preferred mode of ventilation during the transfer. This may be the case for those with a prescribed level of therapy due to underlying medical conditions or where a patient has been well established on NIV and

responding. If the collaborative decision by senior clinicians is to transport the patient on NIV then the following considerations are important in ensuring optimal safety:

  – Ensure the NIV mask is a non-vented well-fitting mask with no or minimal leak.

  – Apply a viral filter to the expiratory limb of ventilator circuit or to the expiratory port of the NIV circuit.

  – A surgical mask should be worn by patients over the oxygen delivery device during the transfer.[5]

  – For patients on NIV or HFNO, trial the oxygen delivery device selected for transfer for five minutes prior to transfer to ensure safe tolerance, monitoring for signs of hypoxia and clinical deterioration.

Post transfer

- Post transport, decontamination via terminal cleaning must be carried out to the bed space. The bed, equipment and lift used in the transport may be a source of transmission and must be cleaned with hospital grade disinfectant.[2,5]

Other considerations

- Dedicated nursing staff member with the appropriate experience who can assist with patient transfers 24 hours a day

- Dedicated wardsperson or porter for ED to ICU or ward transfers

- For transfers between departments (eg. ICU and medical imaging department), the same recommendations apply

- Mitigate risk events that may occur during intrahospital transport of patients including limb trapping or displacement, collisions and intravenous line or catheter issues.[8]

Glossary of abbreviations

AGP	Aerosol generating procedure
BVM	Bag valve mask
ED	Emergency department
ETCO2	End tidal carbon dioxide
HFNO	High flow nasal oxygenation
HM	Hudson mask
HMEF	Heat moisture and exchange filter
ICU	Intensive care unit
NIV	Non-invasive ventilation
NP	Nasal prongs
NRM	Non-rebreather mask
O2	Oxygen
PPE	Personal protective equipment
PEEP	Positive end-expiratory pressure

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