

COVID-19: Very Rapid Updates and Safety (ViRUS)

High risk of aerosolization or droplet spread from tracheostomy in patients with COVID-19 when ventilator or CPAP circuit disconnected

What happened?

It is difficult to safely disconnect the breathing circuit in COVID-19 positive patients who have a tracheostomy. Manoeuvres such as tube clamping during disconnection are used by some, but this is very difficult with a tracheostomy tube. This means when disconnecting, the risk of aerosol generation is high. Filters and closed suction systems also need to be changed regularly according to guidelines or protocols.

Why might this be more likely than usual to happen during the COVID-19 pandemic?

This is relevant for all patients requiring a tracheostomy due to a slow respiratory wean. This is common in patients ventilated with Covid-19.

How could this have been identified early in its course/how it could have been prevented or mitigated if recognised earlier?

Plans for how to deal with this are needed in anticipation of the use of tracheotomies in weaning during the pandemic.

How have you managed to resolve this issue or create a work around?

So far we are considering use of clear bags directly over the tracheostomy instantaneously during disconnection, to prevent direct exposure to any aerosol or droplets. In patients who are still sedated, ensuring a suitable depth of sedation may help to reduce the risk of coughing. Other suggestions are welcomed.

Comment:

Guidance for safe tracheostomy care during the COVID-19 pandemic: the NHS National Patient Safety Improvement Programme (NatPatSIP), will be published very shortly.

Potential suggestions derived from this include:

- 1) If as a guide, tracheostomy is delayed to after 10-14 days of ventilation and only undertaken if patient clinical improving (i.e. not viraemic) the viral load is likely to be low and risks to staff therefore less. However, clinical judgement is required.*
- 2) Use cuffed non fenestrated tubes and avoid cuff deflations to maintain closed circuit.*
- 3) Suspend/pause ventilation before circuit disconnection.*
- 4) A 'Kelley' circuit for non-ventilated patients (closed suction and an HMEF on expiratory limb) can be used until the patient is considered non-infectious (criteria for which are currently unclear). Be vigilant regarding the possibility of increasing resistance or blockage of the HMEF.*