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Minimising droplet and virus spread during and after tracheal extubation

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Editor – Tracheal extubation after general anaesthesia carries a 0.2-6% risk of contact between patient sputum and the eye-, nose- or mouth-region of the healthcare worker who performs the extubation.[1] Sputum and airway secretions carry the highest viral load of SARS-CoV-2, the virus causing COVID-19,[2] but surgical face masks reduce respiratory virus shedding in respiratory droplets and aerosols of symptomatic individuals.[3]

We describe a simple way to minimise the risk of droplets and virus from the airway reaching the healthcare worker during and after tracheal extubation. This is achieved by applying a surgical mask to the patients face *before* removing the tracheal tube, and leaving the mask on the patient during transport, postanesthesia recovery room stay and on the ward.

Preparation and execution: If the patient needs suctioning of the mouth, pharynx or trachea, this should be done while the patient is still deeply anaesthetized to avoid coughing. Adequate spontaneous ventilation must be assured before extubation in order to avoid the need for bag-mask-ventilation and re-intubation. A nasal oxygen cannula is applied before extubation with the oxygen flow limited to the clinical need. The surgical mask is placed on the patient *before* extubation (Figure). The cuff of the tracheal tube is emptied and the tube is withdrawn with the filter still in place. During retraction, the tube is covered gradually with a drape that allows the tube to be discarded without contaminating the operating room further. The surgical mask is left on the patient during subsequent transport. The personnel should wear personal protective equipment according to local regulations. The procedure is shown in this video: (VIDEO HERE)

During the ongoing COVID-19 pandemic many patients with known, suspected or unknown COVID-19 infection status will need surgery and general anaesthesia as well as tracheal intubation and extubation for both respiratory and non-respiratory reasons. Both intubation and extubation are considered high-risk procedures. Intubation has drawn a lot of attention,[4] fostering new methods for limiting droplet exposure to healthcare workers in the operating room.[5] However, tracheal extubation is likely to carry an equal, or even higher, risk as compared to intubation.[1] As opposed to intubation, following extubation there is no tracheal tube with a cuff that will prevent the patient from spreading droplets and sputum by coughing. Extubation thus calls for other means of prevention of virus spread. A recent recommendation is to place a face-mask on the patient before extubation[6], however that requires a second operator, in a setting where the number of persons in the operating room should be kept at a minimum. And the face mask will still need to be exchanged for a surgical mask later.

The technique that we present here covers the patient's mouth and nose from before extubation, during the stay in the recovery room and until the patient is back on the ward, and does not involve a second operator.

Declaration of interest

The authors declare no conflcits of interest

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Written consent has been obtained for publication of photo and video.

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