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Extubation barrier drape to minimise droplet spread

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Editor—Transmission of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) is thought to occur via aerosolised droplets.¹ Furthermore, reports suggest that asymptomatic carriers are able to transmit the virus.² Anaesthetists are in a particularly vulnerable position as airway manipulation during tracheal extubation can lead to droplet aerosolisation.³ Current testing capacity in the USA does not allow for the routine screening of asymptomatic patients who present for non-elective surgery. Furthermore, there is

an acute shortage of N95 masks and personal protective equipment (PPE), with the existing inventory being rationed for the care of symptomatic or confirmed patients.⁴ In this setting, it is necessary to consider adjunctive approaches to minimise droplet spread.

To protect against aerosolised droplets during extubation, we have started to employ the following strategy. A 1–2 cm slit is made in the centre of a large (137×229 cm) clear plastic sheet. Before emergence from general anaesthesia, the

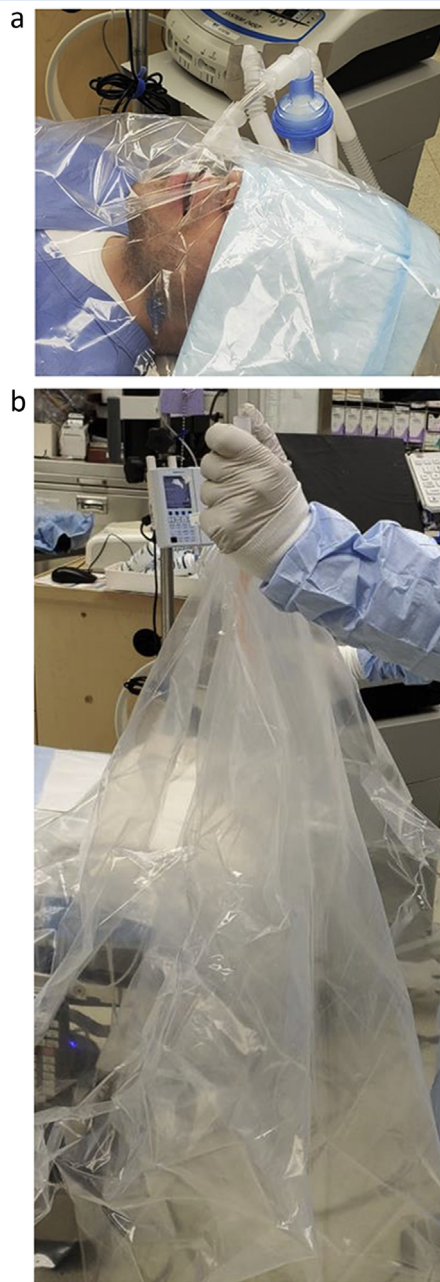


Fig 1. (a) Extubation barrier drape with tracheal tube emerging through a slit in the drape. The drape is then taped to the tracheal tube in a manner that seals the hole. (b) After extubation. Patient side of drape has collapsed over the tracheal tube and the whole unit can be discarded, protecting anaesthesia provider from contact with aerosolised droplets.

ventilator is stopped, gas flows are reduced to zero, the adjustable pressure-limiting (APL) valve is opened and the tracheal tube is briefly clamped. The circuit is disconnected from the tracheal tube, the plastic sheet is placed over the patient and the tracheal tube and cuff inflation adapter threaded through the slit. The tracheal tube is reconnected to the circuit, the clamp removed, and the flows and ventilator restarted. The sheet is taped to the tracheal tube in a manner that seals the opening (Fig 1a). When the patient is ready for extubation, the tracheal tube cuff is deflated and the tube is removed while lifting the sheet off the patient's face. In this manner, if the patient coughs despite pharmacological prophylaxis,⁵ droplets are expelled into the drape (Fig 1b). The drape is then discarded along with the tracheal tube, and the facemask with filter and circuit attached is applied to the patient's face.

The method presented here blocks the dispersion of aerosolised particles during extubation. Furthermore, the placement of the cuff inflation adapter on the anaesthetist's side of the drape allows the tracheal tube cuff to be deflated without the risk of contaminating the anaesthetist's hands, which may occur if the drape is simply placed over the tracheal tube and the anaesthetist has to reach underneath to deflate the cuff. This technique can be a useful adjunct to PPE in minimising viral contamination.

Declarations of interest

The authors declare that they have no conflicts of interest.

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