

LETTER TO THE EDITOR

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Letter to the editor regarding “How to avoid nosocomial spread during tracheostomy for Covid-19 patients”

Dear Sir,

We read the manuscript “How to avoid nosocomial spread during Tracheostomy for Covid-19 patients,” by Zhong et al.¹

We thank the authors, however, basing on our experience on Covid-19 pneumonia patients in one of Italy's national “hot spots” (Pesaro Civil Hospital, Marche Region), we think some more tips to minimize the risk of health care workers' (HCWs) infection may be reported: (1) Zhong et al insert the endotracheal tube (EET) “deeper” along the trachea immediately before tracheal incision (intraoperatively).¹ This step requires a cuff deflation-reinflation maneuver, during which patient's bronchi/lungs are not totally “excluded” from his/her upper airways, with a consequent risk for contaminated expired air to infect HCWs (intensive care specialist and anesthesiology nurse). We prefer to advance the EET along the trachea until its cuff is placed just above the carina preoperatively to erase this contamination risk. (2) The authors perform a “brief interruption of the ventilator” after tracheal opening.¹ On the contrary, once the anterior tracheal wall is exposed, we carry out an adequate preoxygenation (100% oxygen for 3 minutes) and then stop mechanical ventilation 30 seconds before tracheal incision (pre-tracheotomy apnea). This step, proposed by Wei,² prevents the expired contaminated air to come out under pressure (“champagne effect”) from the patient's lower airways through the tracheostomy site after deflation of EET cuff with a consequent reduction of HCWs' contamination risk. (3) We minimize HCWs' intraoperative time exposure to patients' aerosolized secretions by connecting the tracheostomy cannula with Halyard closed suction system (which is attached to the ventilator at the end of surgery) before tracheal opening and cannula insertion into the trachea (Figure 1). The time interval (“air exposure time,” AET) between EET cuff deflation and connection of the cuffed tracheostomy cannula-Halyard system to the ventilator is one of the most hazardous phases² for HCWs' contamination, since the patient's lower airways are not entirely

“excluded” (not connected to the ventilator system) from the external environment. We quantified this contamination risk by measuring AET in 24 Covid-19 patients (19M,5F), mean age 62.9 + 11.8 years, submitted to surgical tracheostomy between 3 February and 19 March 2020: AET for surgical tracheostomy was 5.5 ± 1.5 seconds, inferior ($P < .001$) to AET for percutaneous tracheotomies (21.8 ± 5.7 seconds). This seems to confirm the superior risk of HCWs' contamination during percutaneous tracheotomy with respect to surgical procedure.³⁻⁵ In addition, the use of Halyard system (connected to the cannula before tracheal opening) not only minimizes AET, but enables immediate aspiration of tracheal/bronchial infected secretions after EET removal through a “closed circuit.” Since “open air” tracheal suctioning is one of the most dangerous steps for HCWs' contamination because of aerosol generation,² Halyard system helps minimize the risk of HCWs' infection. As a confirmation, in our case series, no HCW infection has been recorded so far.

In conclusion, we thank Zhong et al for presenting their modified tracheostomy. We believe combining their steps with the supramentioned tips may be useful for a better surgical planning and prevention of HCWs' infection when performing tracheostomy in patients affected by Covid-19 pneumonia.

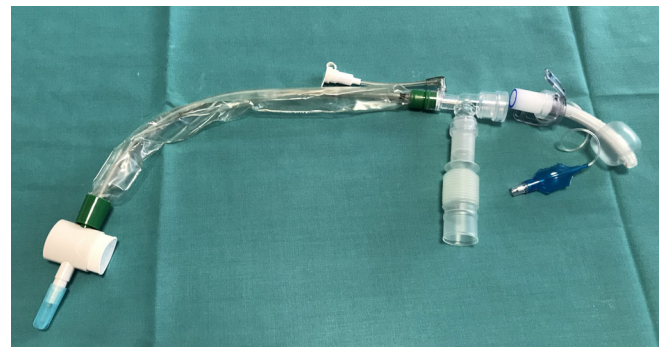



FIGURE 1 Halyard closed suction system (Registered Trademark or Trademark of Halyard Health, Inc. or its affiliates. Copyright 2016 HYH) connected with the tracheostomy cannula [Color figure can be viewed at wileyonlinelibrary.com]

CONFLICT OF INTEREST

The authors declare no potential conflict of interest.

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