

VIEWPOINT

# Surgical Considerations for Tracheostomy During the COVID-19 Pandemic Lessons Learned From the Severe Acute Respiratory Syndrome Outbreak

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# Method: A literature review of tracheostomies during the SARS epidemic (Pubmed)

Table. Case Series of Open Tracheostomies Performed During the Severe Acute Respiratory Syndrome (SARS) Outbreak

Characteristic	Case series		
	Chee et al <sup>5</sup>	Tien et al <sup>6</sup>	Wei et al <sup>7</sup>
Institution	Tan Tock Seng Hospital, Singapore	Sunnybrook and Women's College Health Sciences Centre, Toronto, Ontario, Canada	Queen Mary Hospital, Hong Kong SAR, China
No. of tracheostomies performed	15	3	3
Barrier precautions during surgery	Standard PPE, <sup>a</sup> shoe covers, and powered air-purifying respirator system	Standard PPE <sup>a</sup> and Stryker T4 Protection System	Standard PPE, <sup>a</sup> shoe covers, and additional plastic face shield worn outside goggles
Setting of surgery	Negative-pressure room in ICU	Negative-pressure room in ICU	Negative-pressure room in ICU or operating room
Intraoperative steps to reduce aerosolization	Complete paralysis of the patient, mechanical ventilation stopped before tracheotomy, limited suction used during the procedure, no specific avoidance of diathermy other than during tracheotomy <sup>b</sup>	Complete paralysis of the patient, mechanical ventilation stopped before tracheotomy, no suction used after trachea was entered, diathermy avoided when possible	Complete paralysis of the patient, mechanical ventilation stopped before tracheotomy, no suction used throughout the procedure, diathermy avoided as much as possible
Surgical team members	Single dedicated team performing all tracheostomies: experienced surgeon, experienced anesthesiologist, 1 scrub nurse, and 1 surgical assistant <sup>b</sup>	Senior attending trauma surgeon and most senior surgical staff member available, attending ICU anesthesiologist, and no circulating nurse or scrub nurse	Single surgeon, 1 intensive care specialist, and 1 standby medical or nursing staff member

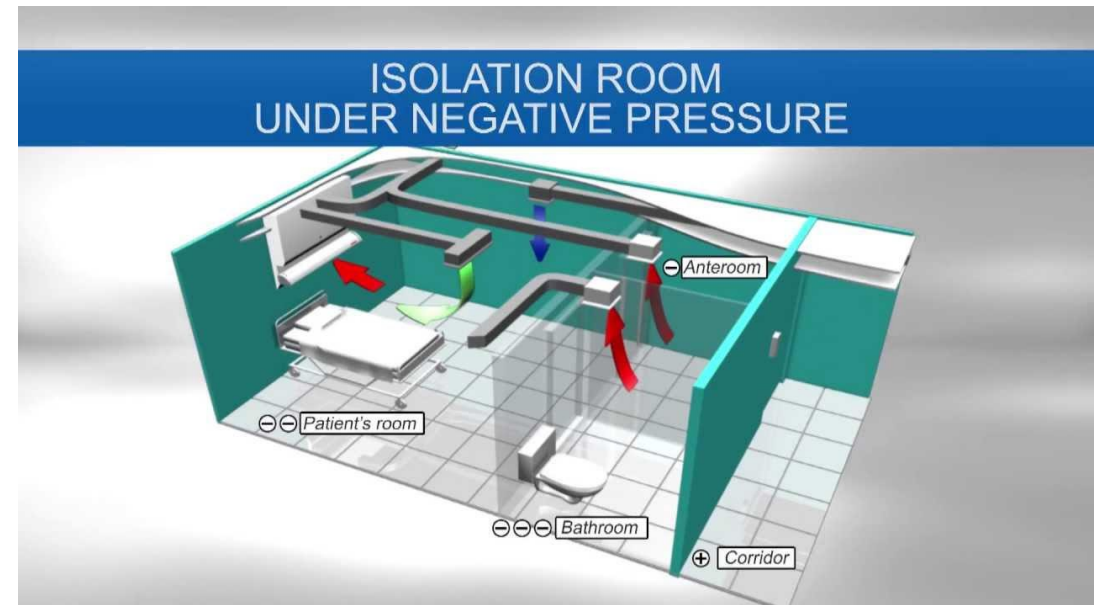
# 1. Standard personal protective equipment (PPE)

- N95mask, surgical cap, goggles, surgical gown, and gloves
- Powered air purifying respirators (PAPRs)
- (Gowning and degowning procedures are closely supervised by dedicated infection control nursing staff)



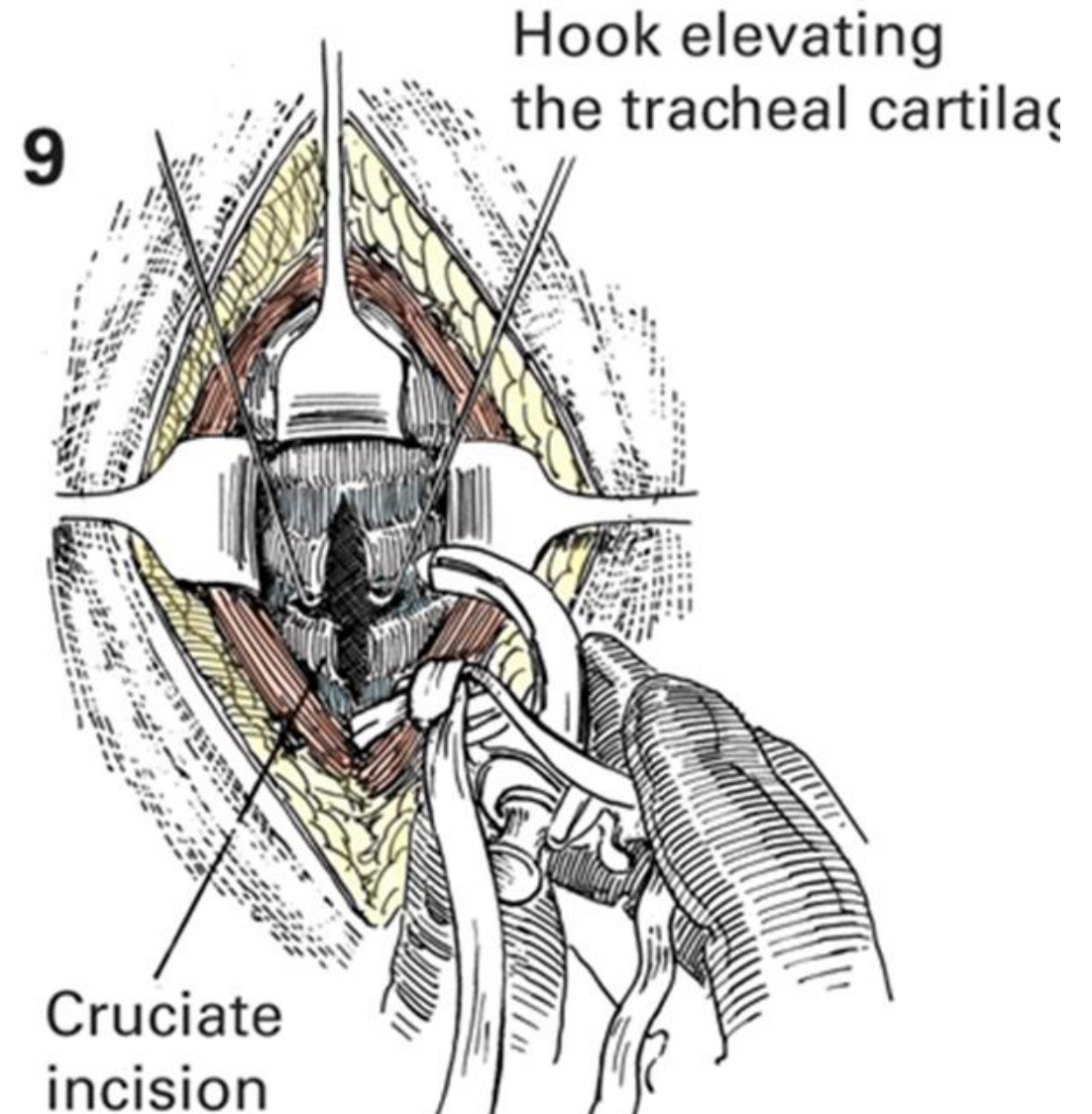
## 2. Tracheostomy was performed in the ICU (negative-pressure rooms with anteroom)

- Avoided unnecessary transport of patients and repeated connection and disconnection of ventilatory circuits during transfer.
- Consolidating all necessary equipment into a single sterile pack greatly simplifies the movement and preparatory process in the ICU room.



### 3. Minimize aerosolized secretions intraoperatively

- 1. Ensuring complete paralysis.
- 2. Stopping mechanical ventilation just before entering trachea via tracheostomy.
- 3. Reducing the use of suction during the procedure.
- 4. Open tracheostomy is favored.



## 4. A dedicated, experienced team

- Comprising a surgeon, an anesthetist, and a scrub nurse.
- Communication plans within the room need to be preestablished





## 5. Post procedure waste disposal and decontamination of equipment

- Whenever possible, disposable equipment should be used.
- Personnel who handle the decontamination of surgical equipment should also be appropriately protected in standard PPE.