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patient, the family, and the medical providers, is required. Limited goal-directed follow-up as an outpatient, primarily because of decreased access during the pandemic, may result in patients living with a tracheostomy for an unnecessarily extended timeframe. Living with a tracheostomy could be complicated by chronic pain with coughing and activities of daily living, increased anxiety associated with breathing through a device, the stress of managing the tracheostomy tube, suctioning, dealing with potential adverse events, sleeplessness due to airway discomfort, lack of autonomy, and speech and swallowing difficulties. This stigma leads to social withdrawal and mental health issues during an era when individuals are already experiencing isolation.

In conclusion, increasing data support that delaying tracheostomy in patients with COVID-19-related respiratory failure makes sense for the following reasons: 1) avoidance of a procedure that ultimately may prove to be unnecessary or not indicated because of either successful extubation or death; 2) avoidance of exposure of HCW to an aerosol-generating procedure during a period of high infectivity; 3) lack of uniform evidence that early tracheostomy results in faster discharge from the ICU or reduction in mortality in COVID-19 patients; and 4) avoidance of logistical challenges with tracheostomy aftercare, discharge planning, and disposition.

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Rebuttal From Drs Brenner, Feller-Kopman, and De Cardenas



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We commend our colleagues on a cogent counterpoint¹ that illuminates both hobgoblins and hard truths about tracheostomy that have shaped our journey from the first wave of the pandemic to the present.

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TABLE 1] Misconceptions Contributing to Excessive Tracheostomy Delays in Patients With COVID-19

COVID-19 Clinical Course	
Mechanically ventilated patients with COVID-19 invariably “declare themselves” with rapid recovery or death with 2 weeks.	Approximately 10% of patients can languish for weeks on ventilators relevant to many thousands of patients
Viral Transmission From Tracheostomy	
COVID-19 tracheostomy is associated with a high rate of viral transmission to health care workers.	Most COVID-19 tracheostomy series document zero transmission, owing to protocols and waning infectivity.
Candidacy of Patients	
Few patients with COVID-19 are candidates for tracheostomy because of high PEEP or poor pulmonary reserve	Patients with COVID-19 ARDS mirror other patients with ARDS. Most such patients have sufficient reserve to allow procedures with apnea pauses.

ARDS = acute respiratory distress syndrome; COVID-19 = coronavirus disease 2019; PEEP = positive end-expiratory pressure; RT-PCR = reverse transcription polymerase chain reaction; SARS-CoV-2 = serious acute respiratory syndrome coronavirus 2. Modified with permission from Schultz MJ, Teng MS, Brenner MJ. Timing of tracheostomy for patients with COVID-19 in the ICU-setting precedent in unprecedented times [Published online ahead of print September 3, 2020]. *JAMA Otolaryngol Head Neck Surg.* 2020; <https://doi.org/10.1001/jamaoto.2020.2630>.

Hobgoblins

In fog of war, decisions must be made—sometimes right ones in the moment, but often less so in hindsight. Such is the case with delaying tracheostomy for patients with respiratory failure from coronavirus disease 2019 (COVID-19). Early in the pandemic, clinicians confronted a novel, rapidly spreading virus with a poorly understood clinical course, timeline of infectivity, and transmission characteristics. Early arguments for delaying tracheostomy were largely based on misconceptions (Table 1). The 2020 consensus statement published in *CHEST* found no evidence to justify delaying tracheostomy in patients with COVID-19-related respiratory failure.²

Hard Truths

Our colleagues rightly note the intricacies of tracheostomy planning, execution, and postoperative care. Predicting the clinical course of patients with respiratory failure is difficult; iatrogenic injuries to the airway are pervasive (whether from prolonged intubation or otherwise); and challenges may arise in the care or disposition of patients after any procedure. Therefore, decisions must be individualized, considering the balance of risk and benefit. It is difficult to overstate the untoward impact of prolonged translaryngeal intubation, cumulative effects of sedations, and collective physical, psychiatric, and cognitive burdens that define the survivorship experience for months and even years after intensive care.

With these preliminary remarks, we address our colleagues’ four core points in turn.

1) “[Delaying tracheostomy >14 days avoids] a procedure that ultimately may prove to be unnecessary

or not indicated due to either successful extubation or death.” Although delaying tracheostomy may allow some patients to recover or succumb to illness, delay often serves only to prolong the inevitable—with a longer course of recovery and increased risk of nosocomial complications. Although laryngotracheal injuries may occur at any time from intubation onward, longer duration amplifies risk. In one series of critically ill patients with COVID-19, 47% developed tracheoesophageal fistula or transmural (full-thickness) tracheal injury. Tracheomalacia, posterior arytenoid scarring, tracheal stenosis, tracheal webs, perforations, and necrosis also may occur.³

- 2) “[Delaying tracheostomy >14 days avoids] exposure of health care workers to an aerosol-generating procedure during a period of high infectivity.” There is no evidence that such delays improve safety, especially if personal protective equipment is available.⁴ With growing knowledge of the natural history, infectivity, and transmission rates, it is recognized that peak infectivity corresponds to the early phase of severe acute respiratory syndrome coronavirus 2, sometimes before the emergence of symptoms, and typically well before a tracheostomy would be contemplated. Emerging data dispel misconceptions on the timeline of infectivity, although protocols for aerosol-generating procedures remain crucial, and we agree that tracheostomy should not be performed in patients requiring prone ventilation.
- 3) “[Delaying tracheostomy addresses] lack of uniform evidence that early tracheostomy results in faster discharge from the ICU or reduction in mortality in COVID-19 patients.” In numerous randomized clinical trials before the pandemic, tracheostomy accelerates weaning from the ventilator, reduces ventilator-associated pneumonia,

and decreases mortality. Data from COVID-19 cohorts mirror these findings.⁵ Tracheostomy is associated with decreased opioid use.⁶ Although we welcome the ongoing accrual of evidence, the preponderance of clinical data, including meta-analyses, documents a rationale for early tracheostomy. Claims that patients with COVID-19 require different standards of critical care have generally not withstood scrutiny. The flawed notion that decades of evidence-based standard of care should be abandoned takes a page from the first wave playbook—a playbook that has not withstood the test of time.

- 4) “[Delaying tracheostomy avoids] logistical challenges with tracheostomy aftercare, discharge planning, and disposition.” The high rates of decannulation reported in studies of patients undergoing COVID-19 tracheostomy attest to feasibility of aftercare for these patients. Multidisciplinary teams minimize adverse events and improve efficiency.⁷ The adage “amateurs talk about strategy, while experts talk about logistics” applies to COVID-19 tracheostomies. Planning includes disposition, equipment, and expedited downsizing and decannulation processes. Training of nursing, respiratory therapy, and speech and language pathology personnel to care for patients with tracheostomy and identify laryngotracheal disease (dry cough, hoarseness, stridor, dysphagia) is essential.

Evidence-based practices improve outcomes, ensure patient-centered care, and promote humanism. Tracheostomies should be performed when clinically indicated, with accountable post-tracheostomy care. Although personal protective equipment and safety protocols must adapt mid-pandemic, procedure timing is business as usual. Sawubona.

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Rebuttal From Drs Pandian, Murgu, and Lamb



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Brenner and colleagues¹ identified several reasons why tracheostomy should be done before 14 days of mechanical ventilation in patients with coronavirus disease 2019 (COVID-19): 1) reduced prevalence of post-ICU syndrome (PICS); 2) earlier participation in rehabilitation; 3) decreased risk of tracheomalacia and tracheal stenosis, ventilator-associated pneumonia, and mortality; 4) lack of high rates of infection in health care workers performing tracheostomy; and 5) increased ICU bed capacity.¹

These reasons for performing early tracheostomy must be viewed with caution. Although prolonged mechanical ventilation is a known risk factor for PICS, no data suggest that tracheostomy reduces this risk.² We expect that PICS will be prevalent in

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