Supplemental Tracheostomy Procedural Information

- Consideration for tracheostomy at 21 days of intubation.
- Repeat COVID-19 testing was performed on tracheal aspirate as well as nasopharyngeal swabbing prior to tracheostomy placement. However, positive results did not preclude performing the procedure.
- Procedure done at the bedside in the intensive care unit (ICU) in negative pressure rooms.
- The tracheostomy team consists of one anesthesia attending and/or CRNA at the head of the bed, a respiratory therapist, an experienced bedside procedure (ICU) nurse (not necessarily in the room, responsible for set-up & co-ordination), and a surgical attending with a fellow or senior resident at their discretion.
- Personal protective equipment (PPE) for those in the room consisted of gown, gloves, and either a powered air-purifying respirator (PAPR) or a half-face respirator and face shield. Strict donning and doffing procedures enforced with procedural nurse providing oversight on correct techniques.
- Our institution had already established a bedside procedure team, allowing consistent and safe ICU-based tracheostomy placement with support from a small cohort of dedicated and experienced surgical/trauma ICU nurses. Tracheostomies on COVID patients were performed on two set days each week to ensure consistent scheduling and team efficiency.
- On the day before the tracheostomy procedure, the ICU team performed a 15-20 second respiratory hold on the patient to ensure no significant de-recruitment or prolonged desaturation. The purpose of this maneuver was to demonstrate that the patient had adequate reserves to allow a respiratory hold during the procedure, which would enable a period of no ventilation while both the endotracheal tube and tracheostomy tube cuffs were deflated, thereby minimizing aerosol exposure. Chemical paralysis used during tracheostomy to prevent uncontrolled respirations. Guidelines for ventilator settings compatible with safe tracheostomy were left to attending surgeon discretion, although this was generally accepted as $FiO2 \leq 60\%$ and a PEEP of ≤ 10.
- Choice of open versus percutaneous tracheostomy techniques was deferred to the surgeon performing the tracheostomy. Bronchoscopy during tracheostomy placement was likewise performed at surgeon discretion.
- Shiley 7-0 and 8-0 cuffed non-fenestrated tracheostomies were used on all patients.
- Percutaneous endoscopic gastrostomy tubes were rarely placed in an attempt to limit additional healthcare provider exposure and with limited evidence of benefit. Exceptions were made for patients with significant neurologic issues or placement concerns, and only when done in conjunction with tracheostomy placement.
- In cases where the patient was on therapeutic anticoagulation, this was held both before (4 hours prior for heparin infusions and 1-2 doses for enoxaparin) and after (resumed at 2-4 hours) tracheostomy. Prophylactic anticoagulant dosing was not held perioperatively.