

YNHHS Guideline for Emergency Invasive Airway Management in the COVID Environment

Situation:

Surgeons and care teams performing emergent invasive airways require clear, systematic guidance for this high risk, aerosol procedures. Systematic guidance ensures consistent care is provided quickly and safely to our patients while protecting our healthcare workers.

Background:

When endotracheal intubation and other forms of non-invasive airway management have failed and an invasive airway is required, it is an airway emergency. COVID 19 requires that providers practice extreme caution and preparation when performing aerosolizing procedures to limit the risk of exposure to themselves and other team members. During emergent invasive airway procedures such caution and preparation can be extremely difficult and can result in patient harm or staff exposure.

Assessment:

There is currently no systematic guidance for COVID 19 emergent invasive airway management at YNHHS. Guidance for elective COVID 19 tracheostomy procedures exist.

Recommendation:

YNHHS has created the following draft standard operating procedure to provide clear guidance to primary teams, ICUs and emergency departments on early recognition, consultation and preparation for an emergent invasive airways.

Yale New Haven Health

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Purpose:

1. Minimize the COVID 19 exposure risk to all healthcare workers during an emergency airway crises.
2. Provide medical care to patients in extremis in a manner deemed beneficial to improve the clinical course and outcome.
3. Provide procedures to prevent emergency situations from arising in patients at risk of airway failure
4. To provide systematic guidance for surgeons and non-surgeons providing emergency invasive airways in the Adult ED, Inpatient units and ICUs.

Definitions:

COVID Status:

- Confirmed COVID positive patients with varying severity of illness (mild, severe and convalescence)
- Suspected COVID/PUI
- COVID tested negative

Acuity:

- Urgent or Expectant
 - For patients identified (early) for being at risk of having a difficult airway
 - Anesthesia or the primary team has requested a surgical airway
- Emergent
 - Failed airway management with a patient in a “cannot-intubate” or “cannot-intubate/cannot oxygenate” condition

Recommendations:

Early Recognition/Action

Primary teams should consult the anesthesia intubation team when a patient is admitted who has signs concerning for difficult tracheal intubation. When a patient is assessed by the consultant as being at risk of having a difficult airway early (“elective”) airway management should be considered.

Patients may be assessed utilizing this simple screening tool:

Screening Tool to Trigger Airway Evaluation/Indications for Early assessment and possible Intubation

Patient History:

- Prior difficult Intubation
- Laryngeal mass or surgery
- Radiation to neck
- Oral/throat surgery prior to admission

Appearance/Physical Exam:

- BMI >45
- Disfigured Mouth/jaw/chin/neck
 - Micrognathia: very small chin/jaw
 - Neck/face contractures, burns
- Minimal neck extension/mouth opening

Surgical Airway Activation Process

Step 1:

Urgent or expectant difficult airway

When a patient in need of airway control has been pre-identified by the above process as being at risk of having a difficult airway, and surgical support is requested by the anesthesia consultant the surgical attending provider (usually Trauma Surgery or ENT Surgery). If available to speak, the attending anesthesiologist consultant should speak directly to the surgical attending consultant.

Emergent Failed Airway

When the clinician managing the airway declares a “failed airway” situation (“cannot intubate/cannot ventilate”) the care team should call the local in-house surgical attending provider (usually Trauma Surgery or ENT Surgery).

Given the COVID crisis and the risk to the provider accessing the airway and associated personnel in the room, if a surgical attending provider is unavailable the non-surgeon attending provider without specialty-training in accessing the surgical airway may defer an intervention.

Step 2:

Procedural Equipment:

The advanced airway team will ensure the following equipment will be available at the bedside, these kits will be added to the advanced airway team carts:

1. Cook Melker Universal Emergency Cricothyrotomy Kit
2. #10 and #11 Scalpel blades and handle, intubating bougie, #6 tracheal tube
3. Disposable Tracheostomy Tray

Recommendation would be for consideration of Cook Melker Universal Cricothyrotomy Kit (using Seldinger technique) if suitable anatomy. This technique may be less aerosol generating than procedures such as a bronchoscopy or surgical cricothyrotomy. This technique does require gas aspiration from the airway.

Product link with more detailed information including training videos:

https://www.cookmedical.com/products/cc_tccsbuni_webds/

Step 3:

Procedural Precautions:

Unit staff and primary team will ensure the following aerosol-generating procedural precautions are in place for any surgical airway:

- Gowns, gloves, shields, respirators and goggles are provided
- Personnel present should be reduced to those who are essential
- A negative pressure room is preferred for intubation and/or surgical airway, when possible
- Strong recommendation that the procedure be performed in a room with door closed

Step 4:

Procedure guidance:

- Procedure should be performed by the attending physician
- Respirations should be held prior to entering the airway
- Muscle relaxation should be administered to avoid coughing
- Avoid attempts at ventilation once the invasive airway procedure has been initiated

Other Considerations:

Futility

Two attending physicians should make the decision to abort or defer any life sustaining procedure due to futility in accordance with the YNHHS DNR policy.

