

VUMC Multidisciplinary Surgical Critical Care Service

SICU Standard Operating Procedure: Guidelines for Rapid Sequence Intubation

I. Definition

Rapid sequence intubation is required for SICU patients who cannot maintain a patent airway, who are hemodynamically unstable, who have decreased LOC (GCS \leq 8, non-purposeful), $\text{paO}_2/\text{FiO}_2$ ratio <250 , or a respiratory rate <10 or >30 .

II. Equipment that must be present.

1. Cardiac monitor.
2. IV access.
3. ACLS drugs (obtain from Pharmacy).
4. Bag-valve-mask connected to Oxygen delivery system
5. Pulse oximetry.
6. CO₂ detector.
7. Laryngoscope/Intubation kit
8. Suction with Yankauer tip.
9. 10cc Syringe
10. ETT with stylette
11. Cricothyrotomy tray available (kept in Trach box)
12. Emergency Airway bag

III. Drugs used during intubation. These may vary depending on the fellow or attending performing the procedure.

1. Etomidate 20mg IVP: Onset 60sec, Duration 3 -5min.
2. Succinylcholine 1.5mg/kg IVP (usually 100mg)—unless contraindicated: Onset 20-50sec, Duration 4 -6 min.
3. For CHI patients—Lidocaine 100mg IVP.

- ❖ Note: Etomidate should be given before Succinylcholine for the comfort of the patient and to avoid muscle spasms.
- ❖ Have 2x's the dose of meds needed at the bedside

IV. Preparation for Procedure

1. Insure proper consent is obtained by the physician when possible, unless emergent.
2. Critical Care attending must be notified and present

- a. If Critical Care attending is not available the anesthesia airway phone should be called to have anesthesia attending and/or anesthesia team supervise as needed.
 - b. Critical Care attending may elect to have anesthesia present for high risk airways
 - c. For emergent airways, move forward to secure the airway with oropharyngeal airway and bag/mask ventilation if possible while another member of the team contacts anesthesia airway number for back up.
3. Identify medication nurse
 4. Identify the individual performing the intubation, and back-up personnel
 5. Verify a functioning IV (verified by the medication nurse)
 6. Verify a functioning oxygen saturation probe, and have a back-up probe available. Blood pressure cuff should NOT be on the same extremity as the oxygen sat probe.
 7. Verify medications between intubating personnel and medication nurse. Verify that an extra dose of all medications used are available in the room if needed.
 8. Perform a "Timeout" once everyone that is to be involved with the procedure is at the bedside.

V. Procedure

1. Wash hands, and don personal protective equipment.
2. Lay sterile towel(s) at head of bed to place equipment on in order to keep procedure as clean as possible.
3. Insert oropharyngeal airway.
4. Setup suction apparatus, and connect rigid suction tip catheter to tubing.
5. Check equipment.
 - a. Use syringe to inflate cuff on tube, assessing for leaks. Completely deflate cuff.
 - b. Insert the stylet into the endotracheal tube, ensuring that the tip of the stylet does not extend past the end of the endotracheal tube.
 - c. Check the laryngoscope batteries and insure the light is secure.
6. Position the patient's head by flexing the neck forward and extending the head (sniffing position) (only if neck trauma is not suspected). If cervical spine cord injury is suspected, in-line cervical spinal immobilization must be maintained during the entire process of intubation.
7. Check the mouth for dentures. Remove if present. Suction the mouth as needed.
8. Preoxygenate using a self inflating bag-valve-mask device attached to 100% oxygen for 3 to 5 minutes. Provide frequent gentle breaths.
9. Premedicate patient as indicated. (see part II)
10. Apply cricoid pressure as requested.
11. After the endotracheal tube is placed, insure the cuff is inflated with 5 to 10 ml of air.
12. Confirm endotracheal tube placement while manually bagging with 100% oxygen.

- a. Attached disposable CO2 detector and watch for color change, indicating the presence of CO2.
 - b. Auscultate over epigastrium.
 - c. Auscultate lung bases and apices for bilateral breast sounds.
 - d. Observe for symmetric chest wall the movement.
 - e. Evaluate oxygen saturation (SpO2) by noninvasive pulse oximetry.
13. If CO2 detection, assessment findings, or SpO2 reveals that the tube has not been correctly positioned, deflate cuff and remove tube immediately. Hyperoxygenate with 100% oxygen for 3 to 5 minutes, and then reattempt intubation, beginning with the first step.
 14. If breath sounds are absent on the left, deflate the cuff and withdraw the tube 1 to 2 cm. Reevaluate for correct tube placement.
 15. Connect endotracheal tube to oxygen source or mechanical ventilator.
 16. Secure the endotracheal tube in place, reconfirming the placement afterward and note position of the tube at teeth.
 17. Insure the physician has ordered a follow-up chest x-ray.

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Checklist for Intubation “Time Out”

- _____ Identify medication nurse
- _____ Identify the individual performing the intubation, and back-up personnel
- _____ IV verified functioning (not below BP cuff) (verified by the medication nurse)
- _____ Oxygen saturation probe functioning (not below BP cuff and back-up probe available)
- _____ Blood pressure cuff NOT be on the same extremity as the oxygen sat probe or above IV
- _____ Medications verified
 - Etomidate 20mg IVP
 - Succinylcholine 1.5mg/kg IVP (usually 100mg)
 - Verify that an extra dose of all medications used are available in the room if needed
 - Long acting paralytic in room
 - Post-intubation sedation available
- _____ Cardiac monitoring in place
- _____ Bag-valve-mask connected to Oxygen delivery system
- _____ CO2 detector
- _____ Laryngoscope present X2 and verified
- _____ Oral airway present and appropriately sized
- _____ Check for Dentures and Dentition
- _____ Suction with Yank Auer tip.
- _____ 10cc Syringe
- _____ ETT with stylette
- _____ 11 blade scalpel available at bedside
- _____ Emergency Airway bag
- _____ Attending (Critical Care or anesthesia if CC unavailable)
(In emergent setting, notify while intubation process moves forward)

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