UCDAVIS HEALTH | CHILDREN'S HOSPITAL

NICU Intubation Guidelines

Infant	Intubator		
	Advanced *(10+ Successful intubations, with >3 of those in infants < 30 weeks)*	**Intermediate** *(3-10 Successful Intubations, or 10+ intubations and <3 infants <30 weeks)*	**Beginner** *(0-2 Successful Intubations)*
22- 23 6/7 Weeks CGA <72 hrs	Yes	No	No
>72 hrs	Yes	Yes, 1 Attempt	No
24- 26 6/7 Weeks CGA <72 hrs	Yes	Yes, 1 Attempt	No
>72 hrs	Yes	Yes	Yes, 1 attempt
27- Term Weeks CGA	Yes	Yes	Yes, 1 Attempt
Difficult Airways	Yes	No	No

Number of Attempts: Unless otherwise specified in the above chart, a provider should have no more than 2 attempts before allowing a more experienced provider take over. (An attempt is placing the laryngoscope into the oropharynx)

Before Every Intubation:

Set up Equipment: Laryngoscope, +/- Neo View, Bag/Mask, Suction, C02 detector, Oxygen Source, and Ventilator

* Consider using a **cuffed ET** tube for patients with the following: Congenital Heart Disease, Congenital Diaphragmatic Hernia, Tracheal Esophageal Fistula, Abdominal Wall Defects, and when Intubation is needed only for a surgical procedure.

Orders: CXR, Gas, and Sedation medications for planned intubations

Team: Bedside RN, RT, If a difficult airway, attending should be present at bedside when possible

Position: Ensure infant's head is midline, oral secretions suctioned

Perform Time Out.

Once intubated: Secure ET tube, Place on Vent, obtain CXR and Blood gas. Update Family.

Definitions:

Difficult Airways: Esophageal or Tracheal Repair/Perforation, Subglottic Stenosis, Micrognathia, known to be very anterior, history of complicated intubation or PCAT in the past.

Notes:

Beginners should *ALWAYS* use the Neo View as direct Laryngoscopy with a supervisor watching positioning and placement on the video.

PCAT: For difficult airways, or airway emergencies, consider PCAT activation (4-3666)

Cuffed ET tubes: Consider 3.0 or 3.5 Cuffed ET tube for infants with Congenital Heart Disease (CHD), Congenital Diaphragmatic Hernia (CDH), Tracheoesophageal Fistula (TEF), Abdominal Wall Defects, or Need for surgical procedure

Competency/Maintenance Requirements:

Fellow: Min of 8 successful infant intubations per year

NP and Hospitalists: 5 successful intubations per year.

- To Obtain Competency: 5 infants
- Maintenance: Minimum of 3 infants and 2 sims

Transport RN: 1 successful intubation per calendar year quarter

- To Obtain Competency: 4 successful intubations during orientation period
- Maintenance: 1 successful intubation per calendar year quarter
  - Once Transport RN reaches "Advanced Level", May utilize sim intubation for 1 quarter per calendar year.

Tiers and Priority:

If there are 2 or more qualified persons to intubate a selected patient per above grid, refer to below tiers to determine priority:

Tier 1: Fellows	1. Fellows have first right of refusal for all intubations until the reach “Intermediate level”
Tier 2: NNPs and Transport Team	2a. Intubation needed for competency. 2b. Intubation needed for maintenance, deadline within 2 weeks.
Tier 3: NNPs, Transport Team, Fellows, Residents, Faculty	3. Intubation not needed for competency or maintenance

***These Guidelines are meant to be a framework to promote patient safety and procedure equity. Deviations from these guidelines are allowed at the discretion of the attending physician on duty. ***

Premedication for non-emergency tracheal intubation in the NICU

Background: Premedication for intubation of the neonate improves intubating conditions, decreases the time and number of attempts needed to complete the procedure, and decreases the potential for intubation-related airway trauma. In addition intubation is an unpleasant and painful experience. A consensus statement from the International Evidence-based Group for neonatal Pain includes this phrase: "tracheal intubation without the use of analgesia or sedation should be performed only for resuscitation in the delivery room or for life threatening situations associated with the unavailability of intravenous access." (1)

The following guidelines are consistent with recommendations from the American Academy of Pediatrics (2) and will be utilized in the NICU of the UC Davis Children's Hospital:

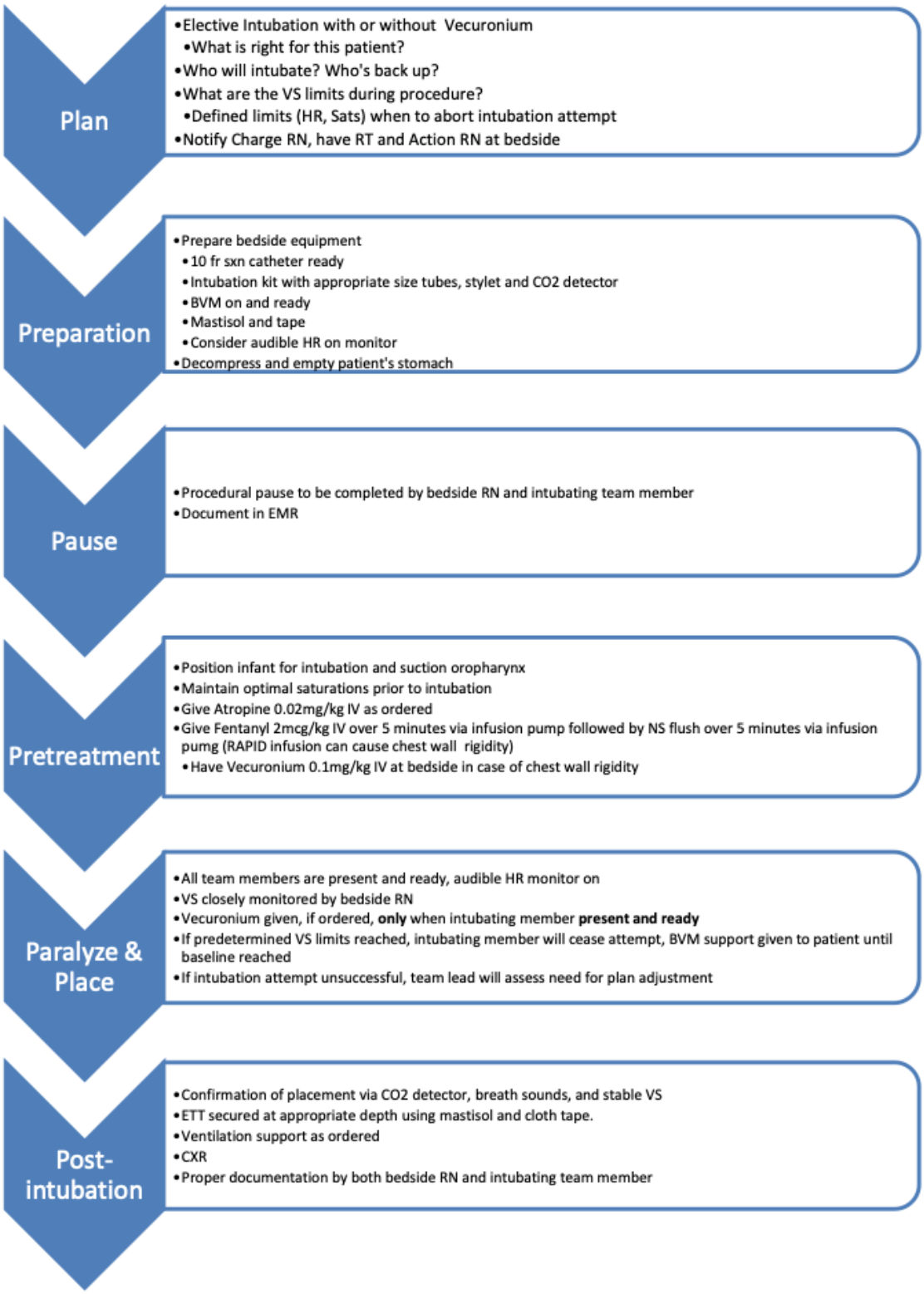
1. Preparation should include ensuring availability of an oxygen source, appropriate sized bag and masks, endotracheal tubes, stylet, laryngoscope, suction, stethoscope, and an LMA (for late pre-term and term infants with a potentially difficult airway).
2. All staff should have clear pre-assigned roles
3. Monitoring should include heart rate, respiratory rate, oxygen saturation, blood pressure, and an end-tidal CO2 detector.
4. Intravenous access should preferably be established and the stomach should be decompressed.
5. Premedication with rapid onset short-duration agents should be used for all non-emergent intubations outside the delivery room with the following agents preferred:
    1. Atropine 0.02 mg/kg
    2. Fentanyl 2 mcg/kg over 5 minutes (dose may be repeated if needed)
    3. Vecuronium 0.1 mg/kg OR Rocuronium 0.5 mg/kg **(optional)**

    *Have Vecuronium Dose ordered and "Held".

    *Up to provider if they want nurse to have drawn up and at bedside prior to fentanyl administration

Slow infusion of fentanyl decreases the risk of chest wall rigidity (which can be treated with naloxone and/or vecuronium or rocuronium)
Both fentanyl and atropine can be given IM if IV access is not possible.

NICU Elective Intubation with Medication



References

1. Anand KJS. International evidence-based group for neonatal pain consensus statement for the prevention and management of pain in the newborn. Arch Pediatr Adolesc Med 2001;155:173-80.
2. Kumar P. Clinical report – premedication for non-emergency endotracheal intubation in the neonate. Pediatrics 2010 125: 608-14.

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