



# Pediatric ED Conference

Pediatric Airway  
Rapid Sequence Intubation  
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# Case Presentation

- A 3 year old previously healthy young girl presents to your emergency department at 3am with Chief Complaint of fever and “funny breathing”, per mom she was breathing perfectly fine when she went to bed at 9pm the night before. She did “feel warm” when she went to bed but mom did not take her temperature. Of note, mom reports vomitus over the pillow of the child when she awoke with this “funny breathing”.

# Physical Exam

- Vitals: T 39.4 P 142 RR 46 BP 86/54 O2 Sat 78%
- Gen: Child is asleep in mother's arms, mottled with decreased tone and vomitus over chest and right shoulder.
- Tachypneic, with nasal flaring and accessory muscle use, decreased air entry bilaterally
- Heart: regular but rapid, no murmurs.

# Question 1

- The child is taken to the resus room, placed on a monitor with continuous pulse-ox, pulse-ox now reads 84% on high flow oxygen via non-rebreather. The attending physician decides that this patient will require intubation. What is the next step in managing this patient's airway?
  - A) emergent intubation
  - B) preoxygenation via nasal cannula
  - C) preoxygenation via nonrebreather face mask
  - D) Bag-valve mask ventilation

# Answer

- A) emergent intubation
- B) preoxygenation via nasal cannula
- C) preoxygenation via nonrebreather face mask
- **D) Bag-valve mask ventilation**

## Explanation

- Studies demonstrate BVM ventilation to have better outcome than intubation. The clinician should assist ventilation manually in patients not responding to basic airway maneuvers, monitor oxygenation by pulse oximetry. In preparation for intubation, positive pressure ventilation should be initiated with a bag-valve-mask to preoxygenate and improve ventilation.
- Attempting emergent intubation at this time may further delay oxygen delivery . O<sub>2</sub> delivery via NC would not be superior to O<sub>2</sub> delivery via non-rebreather which is already in use.

## Question 2

- Oxygen saturation has increased to 100% via positive pressure ventilation. Patient is still unresponsive. As your next step in intubation you administer \_\_\_\_\_
- A) atropine
- B) lidocaine
- C) etomidate
- D) Ketamine
- E) Succinylcholine

# Answer

- A) atropine
- B) lidocaine
- C) etomidate
- D) Ketamine
- E) Succinylcholine



# Explanation

- Atropine: pretreatment which is used in children <1 yr, children <5 who will receive succinylcholine (paralytic) Prevents the bradycardia which may occur with manipulation of the hypopharynx with the laryngoscopic blade.
- Lidocaine: pretreatment optional for cases with increased ICP
- Etomidate: neuroprotective sedative used in rapid sequence intubation. Avoided in septic shock

# Explanation Cont.

- Ketamine: Sedative of choice in septic shock and bronchospasm. Given following pretreatment.
- Succinylcholine: paralytic agent of choice in RSI due to rapid onset (30-60sec) and short duration (4-6min) of action.

# Reference

- Singh, A, Frankei O. Evidence-Based Emergency Management of the Pediatric Airway. *Pediatric Emergency Medicine Practice*. January 2013