PEDIATRIC VENTILATOR SUPPORT

Paramedic

History	Signs and Symptoms	Differential
• Past Medical History • Medications • Allergies • Events leading to current status • DNR code status	• ETT secured with commercial tube holder • Tube placement documented at teeth or gum line • Breath sounds and airway pressures documented	• Determine mechanism of injury vs. nature of illness

Assess ETT and Ventilator Prior to Transport and Calculate Ideal Body Weight

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Airway – Ventiltor Operation Procedure

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Reassess Breath Sounds
Hight Peak Airway Pressure – Check Plateau Airway Pressures (Keep < 30)

Positive bilateral breath sounds, bilateral chest wall movement, stable SPO2 & ETCO2, acyanotic

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Continue to Monitor and Reassess

Absent breath sounds, absent chest wall movement, falling SPO2/ETCO2, cyanosis, or any instability

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Pediatric Airway Guideline

Initial Vent Settings:

SIMV or Assist Control

TV: 6-8 cc/kg ideal body weight
Rate: 16-24, adjust to maintain ETCO2 35-45
FiO2: initial 100%, wean after 5 minutes as tolarated to goal of 40%
PEEP: initial 5, increase to maintain SPO2 > 92%

Asthma/ COPD

Rate 10 initial
PEEP < 5
I:E ratio: 1:3 or 1:4

Maintenance Medication Options:
All ventilated patients require pain management. Consider IV infusions for continuous sedation

Fentanyl – 1 – 2 mcg/kg q 10 min. May start infusion of .5 - 3 mcg/kg/hour IV for prolonged transport. (Mix 500 mcg in 40 ml for 10 mcg/ml concentration, use 60 ml syringe and ½ set on pump)

Midazolam 0.1-0.2 mg/kg IV – May repeat Q15 min. May start an infusion 20-100 mcg/kg/hr. (Mix 50 mg in 250 ml NS)

Ketamine 1 mg/kg IV PRN bolus. May start an infusion @ .3 mg/kg/hr up to 1.2 mg/kg/hr (Mix 500 mg in 250 ml NS for 2mg/ml concentration)

*** Manage patients WITHOUT additional paralytics when possible, especially with neurological conditions***

PEARLS:

- Keep BVM with mask and 10 ml syringe close to patient. In the event of any problem, the 1st corrective action is to disconnect the ventilator and utilize the BVM.
- **DOPE** - **D**isplacement, **O**bstruction, **P**neumothorax, **E**quipment failure/**E**sophageal intubation
- In the event of hypotension, consider auto PEEP. Disconnect the ventilator and ventilate allowing full expiration. If symptoms resolve, resume ventilation with reduced PEEP and/or increased expiratory time.
- Monitor SPO2 and waveform ETCO2 continuously during transport maintaining ETCO2 at 35-45 (when appropriate).
- Suction as needed and refer to troubleshooting check sheet as needed.
- Acidotic patients are dependent on high minute ventilation to correct their acid-base balance. Keep ETCO2 as low as it was or < 20
- Extended transports may require large amounts of medications. Plan Ahead.
- For seizures consider KEPRA 2 G/250 ml NS over 15 minutes and Midazolam infusion 20-100 mcg/kg/hr (mix 50 mg in 250 ml NS)
- May re-paralyze if attempts at increasing pain control or sedation fail or if patient is at risk for losing airway.

Approved by Laramie Fire Department Medical Director June 1, 2020