Memorial EMS
Decatur Memorial EMS
Springfield Memorial EMS

Interfacility Paramedic
Device Assisted Interventions

Developed March 2025

Device Assisted Allowed Interventions

The protocols included in Device Assisted Interventions are based on Agency capability. Based on agency training and equipment an agency can opt in for any of the following protocols. Any time a patient is transported and needs support from external equipment, such as Oxygen, the transporting crew needs to validate the usage rate and calculate that they have enough for 150% of the estimated oxygen consumption available before initiating the transport.

- BPAP
- Ventilator Transport

Changes in EMS Agency capacity will take effect at the next annual competency which is held in April of each year.

BPAP with Flow-Safe II+ Mask

INDICATION:

1. Congestive heart failure (CHF), asthma, chronic obstructive pulmonary disease (COPD), pulmonary edema, pneumonia
2. Patient transfer must be from licensed facility to licensed facility
3. Transfer alternative for patient on Opti-Flow not needing intubation based on clinical stability
4. Bi-Level ventilation in place 15 minutes prior to EMS assuming patient care with maximum oxygen setting of 70% and maximum IPAP/EPAP settings of 13/8
    a. **Any expected patient needs greater than 13/8 exceed the scope of this protocol and would require hospital staff to accompany or critical care transport.**

CONTRAINDICATION:

- Patients in severe respiratory failure without spontaneous respiratory drive
- Patient unable to protect their own airway
    - Altered level of consciousness or unresponsiveness
    - Unable to clear secretions/patient is vomiting
    - Unable to maintain anatomical airway patency (weakness, CVA, etc)
- Patient does not tolerate BPAP equipment/mask
- Recent esophageal/facial surgery
- Head/facial trauma or burns

PROCEDURE:

1. Check Label size on face mask/harness and select the appropriate size.
2. Place ETCO2 cannula on patient and attach it to cardiac monitor. (if applicable)
3. Set the regulator on the oxygen tank to 8 liters/minute which should deliver approximately 5 centimeters of water, or a CPAP of 5.
4. Apply inline capnography via nasal canula to be utilized under face mask.
5. Connect the oxygen tubing to the Flow Safe II+ device.
6. Place Flow Safe II+ device into the mask.
7. Place mask onto patient and adjust the mask to fit.
8. Check mask for proper seal by viewing the manometer, listening for air escaping, or feeling for air movement at the seal of the mask.
9. Ensure the manometer does not read 0 when the patient inhales (Over-breathing). If the manometer reads 0 when the patient inhales, increase the flow of oxygen until it reads above 0.
10. Increase the CPAP to 10 centimeters of water, or 10 on the manometer by increasing the flow of oxygen.
11. Adjust the switch on the end of the Flow Safe II+ from CPAP to Bi-Level.
12. The IPAP is set to 10, as accomplished in step 9 and can be adjusted if needed.
13. EPAP is set at 5 as its factory setting.
14. To adjust EPAP, adjust the dial on the Flow Safe II+ labelled EPAP to desired setting, consistent with what the transferring facility set on their device (within 13 IPAP/8 EPAP).

BPAP with Flow-Safe II+ Mask

EQUIPMENT:

- Mercury Medical Flow-Safe II+ Mask
- Sufficient oxygen supply for the entirety of transport

Pearls

- **Bi-Level ventilation is referred to as BPAP instead of BiPAP by MEMS because BiPAP is a registered trademark for the Respironics Bilevel device.**

BPAP Using Ventilator or Dedicated BPAP Device

INDICATION:

1. Congestive heart failure (CHF), asthma, chronic obstructive pulmonary disease (COPD), pulmonary edema, pneumonia
2. Patient transfer must be from licensed facility to licensed facility
3. Transfer alternative for patient on Opti-Flow not needing intubation based on clinical stability
4. Bi-Level ventilation in place 15 minutes prior to EMS assuming patient care with maximum oxygen setting of 80% and maximum IPAP/EPAP settings of 18/10
    a. **Any expected patient needs greater than 18/10 exceeds the scope of this protocol and would require hospital staff to accompany (i.e. respiratory therapy) or Critical Care Transport.**

CONTRAINDICATION:

- Patients in severe respiratory failure without spontaneous respiratory drive
- Patient unable to protect their own airway
    - Altered level of consciousness or unresponsiveness
    - Unable to clear secretions/patient is vomiting
    - Unable to maintain anatomical airway patency (weakness, CVA, etc.)
- Patient does not tolerate BPAP equipment/mask
- Recent esophageal/facial surgery
- Head/facial trauma or burns

PROCEDURE:

1. Check for appropriate sized face mask/harness.
2. Set the Ventilator to Bi-Level support with current IPAP and EPAP settings
3. Connect the oxygen source to the Ventilator.
4. Apply inline capnography via nasal canula to be utilized under face mask.
5. Attach face mask/harness to Ventilator
6. Place mask onto patient and adjust the mask to fit.
7. Check mask for proper seal by viewing the IPAP and EPAP pressures, listening for air escaping, or feeling for air movement at the seal of the mask.
8. Verify patient ventilatory status:
    a. Rise and fall of chest
    b. Equal breath sounds
    c. Capnography waveform
    d. Pulse oximetry
    e. Updated vital signs
9. Ensure patient is tolerating transport Ventilator for at least 5 minutes prior to leaving
10. If any problems arise p contact Medical Control
11. Ventilatory flow sheets must be completed and attached to ePCR.

BPAP using Ventilator or dedicated BPAP Device

EQUIPMENT:

- SMH/DMH EMS approved ventilator or dedicated BPAP device.
- Sufficient oxygen supply for the entirety of transport including transport from ambulance to bed at receiving hospital.

Pearls

- **Bi-Level ventilation is referred to as BPAP instead of BiPAP by MEMS because BiPAP is a registered trademark for the Respironics BiLevel device.**