



EMS System for Metropolitan Oklahoma City and Tulsa 2017 Medical Control Board Treatment Protocols



Approved 11/9/16, Effective 2/1/17, replaces all prior versions

3K – NON-INVASIVE POSITIVE PRESSURE VENTILATION (NIPPV) ADULT

EMT

EMT-INTERMEDIATE 85

ADVANCED EMT

PARAMEDIC

Indications:

1. Dyspnea – Uncertain Etiology – Adult.
2. Dyspnea – Asthma – Adult.
3. Dyspnea – Chronic Obstructive Pulmonary Disease (COPD) – Adult.
4. Dyspnea – Congestive Heart Failure (CHF) – Adult.
5. Acute Allergic Reactions – Adult (Dyspnea).
6. Water Submersion Event – Adult (Dyspnea).

Contraindications:

1. Apnea.
2. Pediatric dyspnea.
3. Adult dyspnea of lesser severity able to be managed without NIPPV.
4. Adult dyspnea of greater severity requiring invasive airway management.
5. Altered mental status preventing patient cooperation with NIPPV.
6. Active or suspected impending emesis.
7. High risk of aspiration/Impaired gag reflex.
8. Facial trauma/features impairing a tight NIPPV mask-face seal.



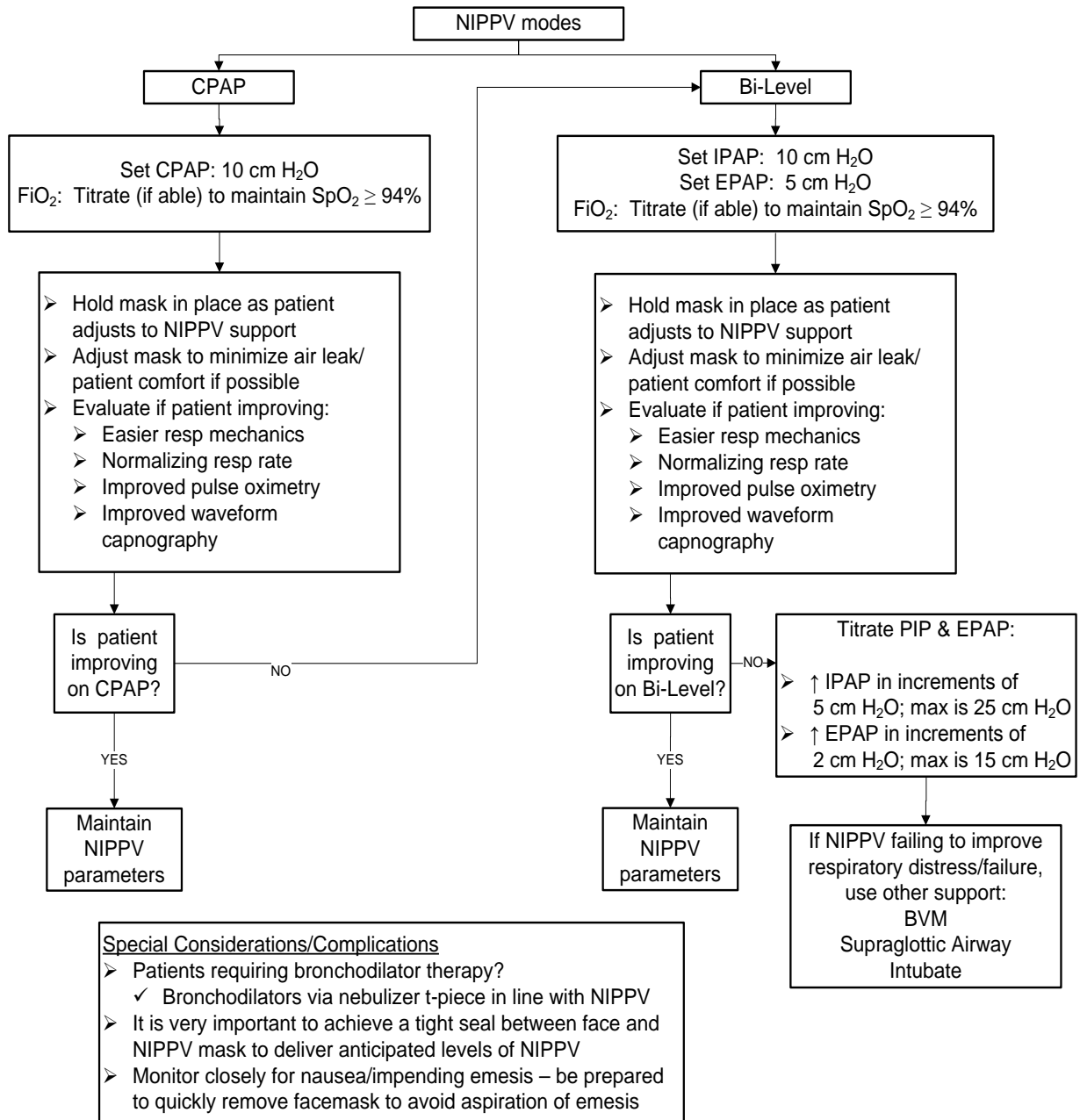
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PROTOCOL 3K: Non – Invasive Positive Pressure Ventilation (NIPPV) - Adult, cont.

Bi-Level/CPAP Ventilation Algorithm

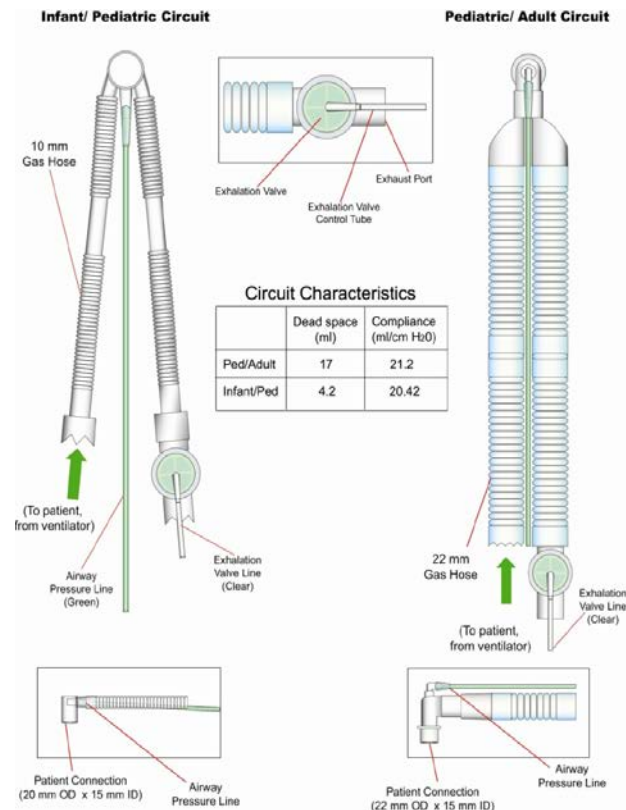


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Technique (Impact 731 Model Series AEV®):

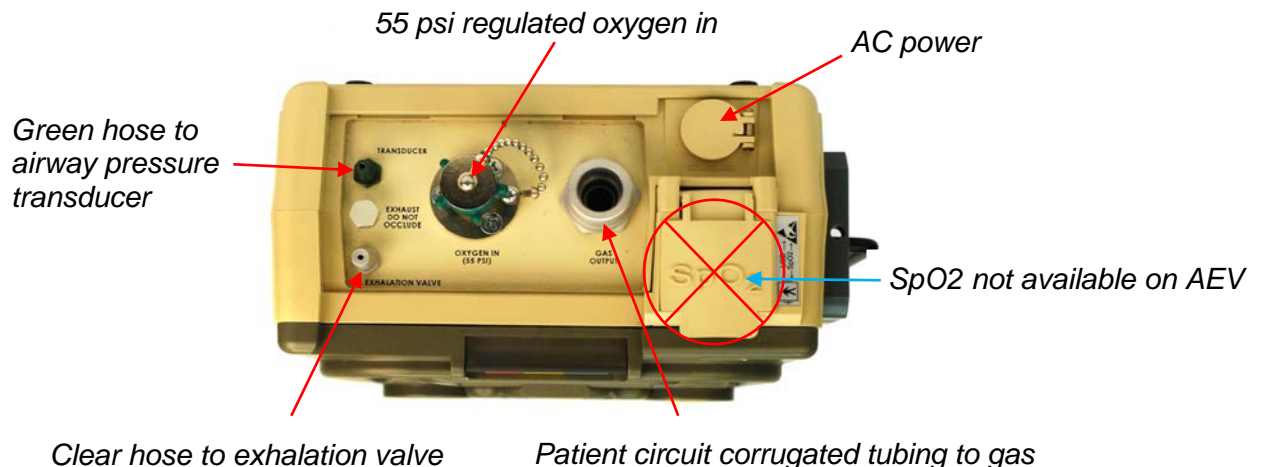
Circuits:



1. AEV® ventilator circuits feature a low dead space design that minimizes CO₂ re-breathing.
2. Note: dead space (circuit and HME) should never be greater than **25%** of the patient's tidal volume (set or spontaneous).
3. The 2 standard ventilator circuits cover the range of patient from infant through adult.
 - Pediatric/adult – patients 20 kg through adult, minimum tidal volume 200mL;
 - Infant/pediatric – 5 though 30 kg, maximum tidal volume 300 mL. *****DO NOT US FOR NIPPV**

Connections- check the ventilator for proper operation before connecting to patient:

Step 1: Connect ventilator circuit (use test lung whenever possible) oxygen hose to 55 psi regulated output.



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Step 2: Power



Turn power switch to "ON"

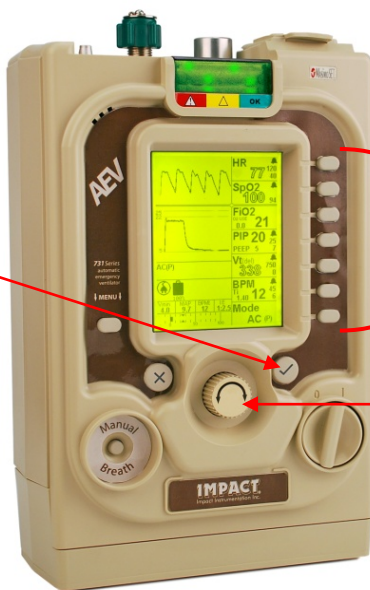
- Unit performs a Self-Check and AUTO-CAL of the internal transducers.
- AEV® then begins operation using the default settings.
- AUTO-CAL is performed every 5 minutes thereafter or when an altitude or temperature change is detected.
- Start-up settings may be changed during operation at any time.

Factory Defaults:

- *FiO2:* 21%
- *High PIP Limit:* 35 cm H2O
- *PEEP:* 5 cm H2O
- *Vt:* 500 ml
- *BPM:* 12
- *I:E* 1:2.5
- *Mode:* AC (V)

Step 3: Changing a Primary Parameter:

4. Press select "✓" to accept new value



1. Press mode parameter button adjacent to setting to be changed.
2. Current value is highlighted.
3. Turn rotary encoder to desired value.



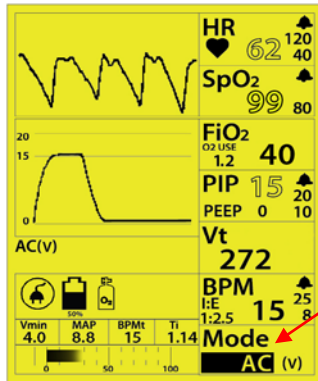
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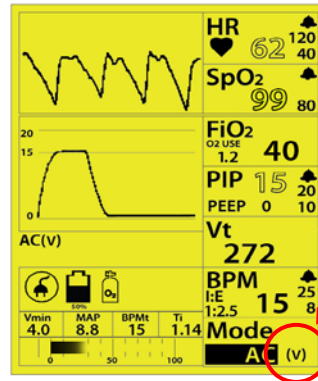
Changing a Primary Parameter:



Change the Mode by pressing the Mode parameter button and turn rotary encoder. Modes are:

- Assist/Control (AC)
- Continuous Positive Pressure Ventilation (CPAP)

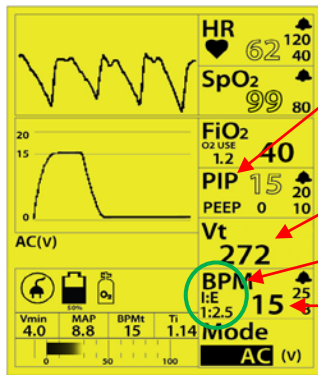
Changing a Secondary Parameter:



Select Breath Target:

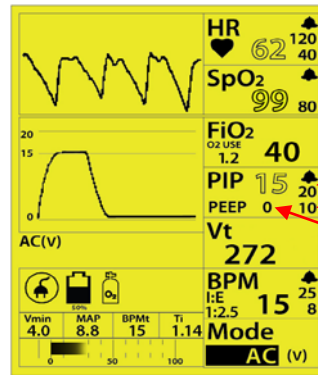
- Volume (V) or Pressure (P)
- Press the mode parameter button twice; (V) is highlighted; then turn the rotary encoder to change to (P) and press Select “√” button to accept change.
- Note: pressing the parameter button sequentially highlights the primary parameter first and then scrolls through the secondary parameters moving clockwise.
- Repeat these steps to return to (V).

Volume Targeted Operation:



- PIP (Peak Airway Pressure)
Note: PIP cannot be adjusted during operation
- Tidal volume controlled directly
- Adjust I: E ratio
- Adjust breathing rate

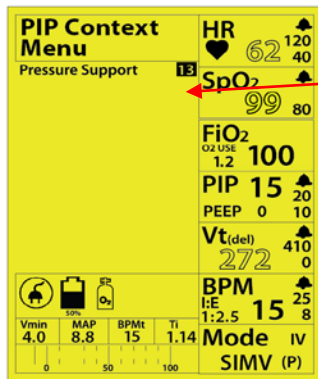
Volume Targeted Operation:



Adjust peak pressure limits:

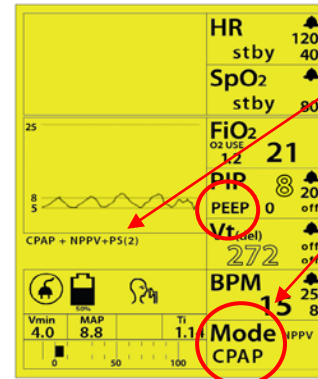
- PIP (Peak Airway Pressure)
- High Pressure
- Low Pressure
- Adjust PEEP
- NOTE: trigger is PEEP compensated

Adding Pressure (PS) Support:



- Press and hold the PIP button for 3 seconds
- Menu opens
- Adjust with rotary encoder to desired value. Range 0-60 cm H₂O
- Press Select “√”.
- Note: Value relative to PEEP pressure (PEEP + value). PS is only active in CPAP modes

Using PS with CPAP (Bi-Level):



- Select the appropriate pressure support level (IPAP) inspiratory positive airway pressure.
- Choose the appropriate PEEP level (EPAP) expiratory positive airway pressure.
- Change mode to CPAP.
- Change the PPV setting to NPPV
- Acknowledge the NPPV application setting message..
- This achieves Bi-Level.



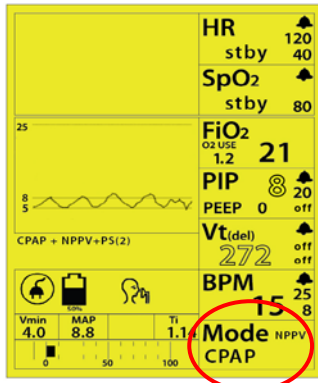
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CPAP with NPPV:



- Press mode button to highlight the mode.
- Select CPAP and press "Accept"
- Press mode button twice to highlight "PPV" field-AEV only offers NPPV
- Adjust with Rotary Encoder to NPPV
- Pop Up message will appear and ask for confirmation
- Press Select "√" to confirm
- Select "√" again to activate