Approved 9/2/26, Effective 1/15/27, replaces all prior versions

3K – NON-INVASIVE POSITIVE PRESSURE VENTILATION (NIPPV) ADULT & INTER- FACILITY PEDIATRIC

EMT

EMT-INTERMEDIATE 85

ADVANCED EMT

PARAMEDIC

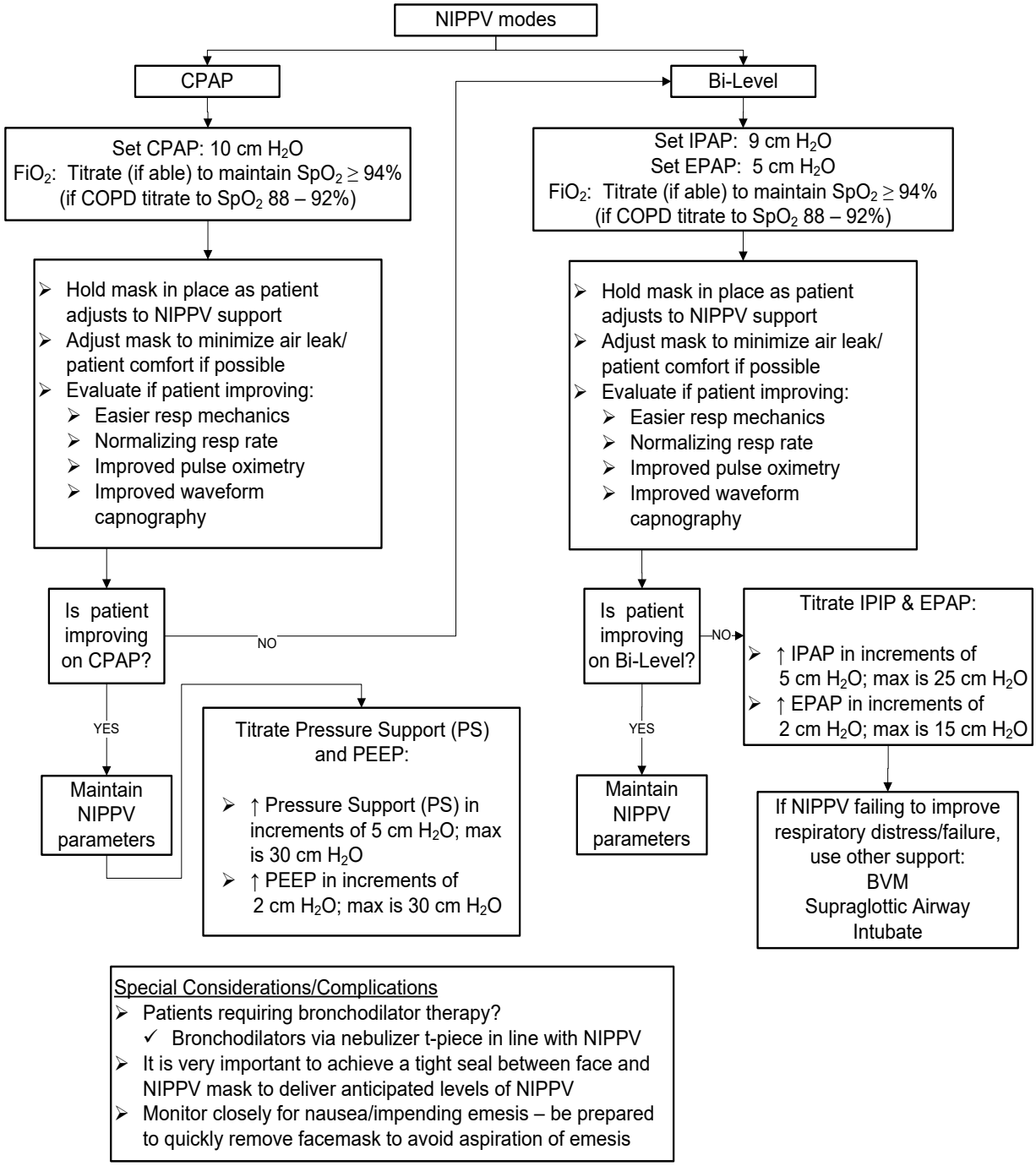
Indications:
1. Dyspnea – Uncertain Etiology – Adult.
2. Dyspnea – Asthma – Adult.
3. Dyspnea – Chronic Obstructive Pulmonary Disease (COPD) – Adult.
4. Dyspnea – Congestive Heart Failure (CHF) – Adult.
5. Acute Allergic Reactions – Adult (Dyspnea).
6. Water Submersion Event – Adult (Dyspnea).
7. Pediatric Dyspnea - Inter-Facility Continuation of Care.

Contraindications:
1. Apnea.
2. Pediatric dyspnea- Non-Inter-Facility/Non-Continuation of Care.
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 & Inter-Facility Pediatric, cont.

Bi-Level/CPAP Ventilation Algorithm



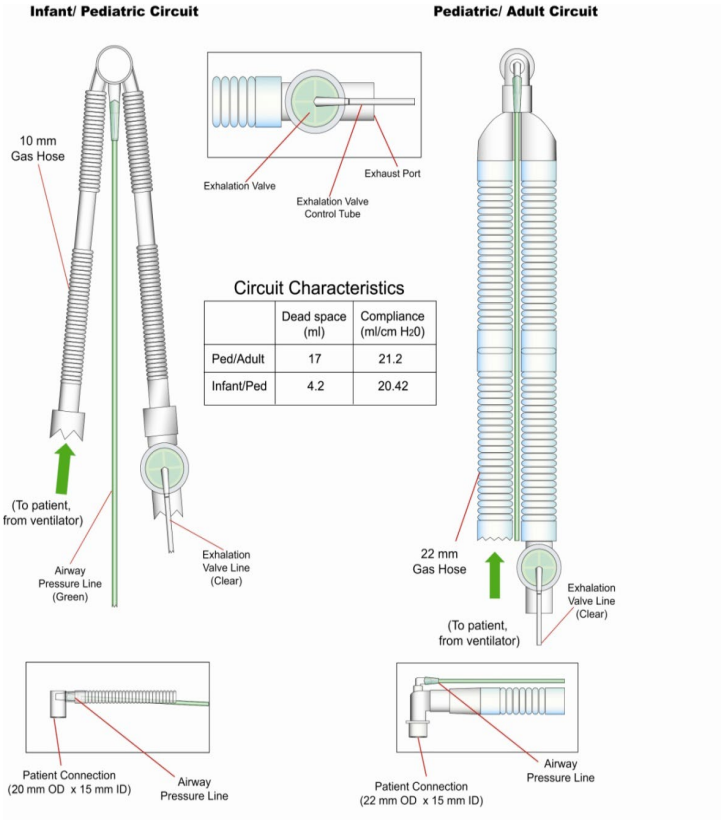
Special Considerations/Complications
- Patients requiring bronchodilator therapy?
  - ✓ Bronchodilators via nebulizer t-piece in line with NIPPV
- It is very important to achieve a tight seal between face and NIPPV mask to deliver anticipated levels of NIPPV
- Monitor closely for nausea/impending emesis – be prepared to quickly remove facemask to avoid aspiration of emesis

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

Technique (ZoLL Z Vent):

Circuits:



	Dead space (ml)	Compliance (ml/cm H2O)
Ped/Adult	17	21.2
Infant/Ped	4.2	20.42

1. Zoll Z 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.

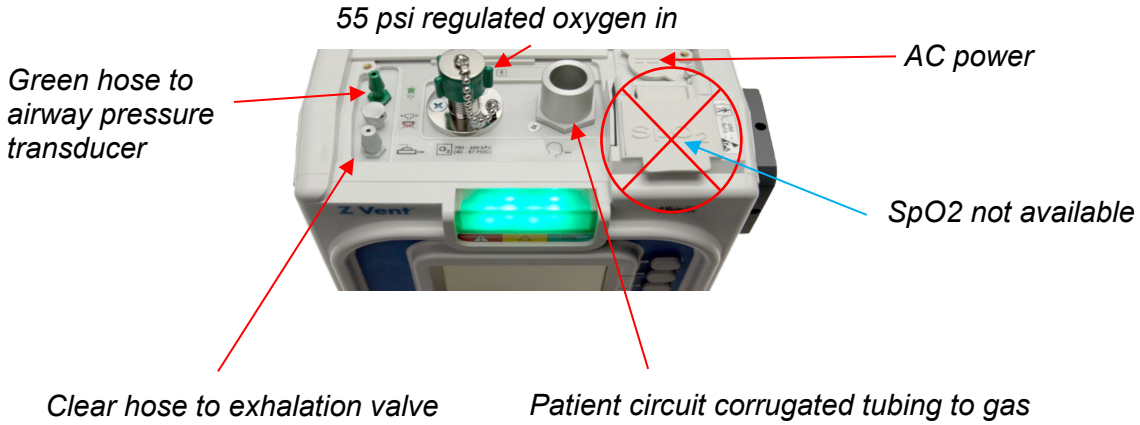
3. The 2 standard ventilator circuits cover the range of patient from infant through adult.

   ➢Pediatric/adult – patients 20 kg through adult, minimum tidal volume 200mL.
   *****Ventilator use in pediatrics restricted to inter-facility transport only.*****

   ➢Infant/pediatric – 5 through 30 kg, maximum tidal volume 300 mL.
   *****Ventilator use in pediatrics restricted to inter-facility transport only.*****

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.



PROTOCOL 3K: Non - Invasive Positive Pressure Ventilation (NIPPV) - Adult & Inter-Facility Pediatric, cont.

Step 2: Power



Turn power switch to "ON"

- Unit performs a Self-Check and AUTO-CAL of the internal transducers.
- Zoll Z 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:* *450 ml*
- *BPM:* *12*
- *I:E* *1:3*
- *Mode:* *AC (V)*

Step 3: Changing a Primary Parameter:



3. Press select "√" to accept new value

1. Current value is highlighted.
2. Turn rotary encoder to desired value.
   - Adult
   - Pediatric
   - NIPPV
   - Custom (Cardiac Arrest)
   - Last setting

Remember: "Touch,Turn,Confirm"™