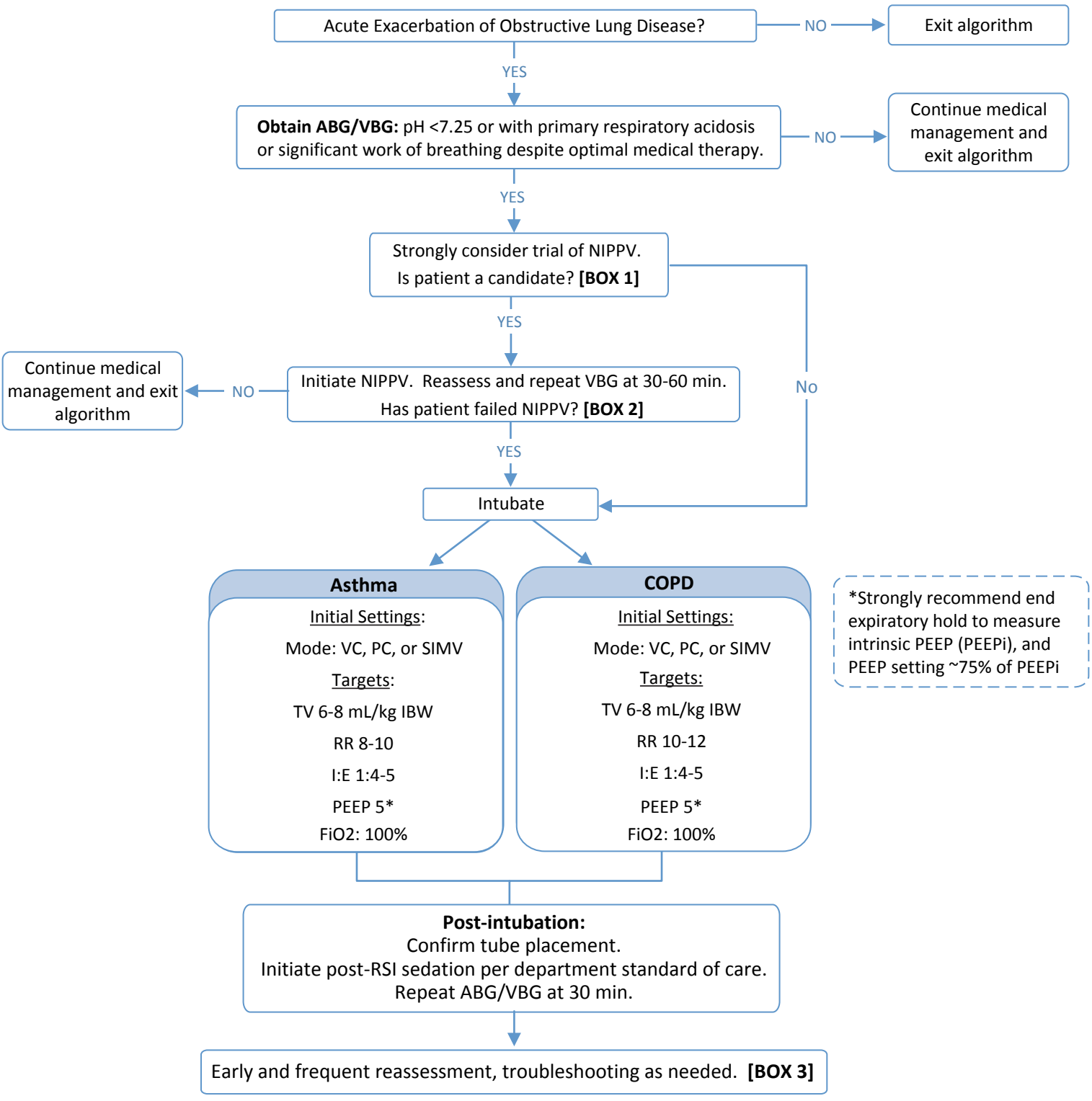
Ventilator Management (COPD/Asthma)



Box 1: Contraindications for NIPPV

1. Hemodynamic instability
2. Inability to tolerate/cooperate (ie AMS, Anxiety, severe N/V)
3. Inability to follow commands
4. Significant facial instability precluding use of face mask

Box 2: Indicators of NIPPV failure

1. Developing hemodynamic instability
2. Severe persistent tachypnea OR new bradypnea
3. Worsening mental status
4. Continued uncompensated respiratory acidosis at reassessment despite optimal IPAP and EPAP settings on NIPPV.
   If settings are inadequate and no other indicators of failure of NIPPV are present **(see #1-3)**, consider change in IPAP and/or EPAP settings with close monitoring and repeat reassessment at 30-60 min.

Box 3: Troubleshooting

1. Treat underlying disease aggressively
2. Initial management: **DOPES**
   D: dislodgment → assess tube
   O: obstruction → suction
   P: PTX → U/S, needle, CXR
   E: equipment → check circuit
   S: stacked breaths → disconnect circuit
3. See Boxes A-F next page

Box 3A: If …. Hypoxia

1. Increase FiO2 to target SpO2 90-94% (decrease FiO2 ASAP to minimum
   effective FiO2 once target achieved).
2. Strongly consider placing arterial line & obtaining ABG if pulse-ox unreliable, refractory hypoxia, or clinical concern
   for additional underlying parenchymal disease. Modify FiO2 as above with target PaO2 60-80, repeat ABG q30-60 min prn.
3. Consider increasing PEEP by increments of 1-2 to max of 10 ONLY if Pplat <30 (**see Box 3E**), and only continue if effective.
4. Troubleshoot ETT - recall DOPES.

Box 3B: If …. Tachypnea

1. Consider increasing sedation until patient synchronous with ventilator.
2. Consider chemical paralysis only if refractory to increased sedation or complications of sedation (i.e., hypotension).

Box 3C: If … Auto PEEP/Air Trapping

1. Consider increasing PEEP in increments of 1-2 to max of 10 until auto-PEEP resolves.
2. Consider decreasing RR to no less than 6 bpm and reassess ventilation with VBG.
3. If also hemodynamic instability, consider disconnecting circuit to relieve air trapping.

Box 3D: If …. Acidosis (pH < 7.2)

1. If no air trapping, consider increasing RR and reassess ventilation with VBG.
2. Consider increasing TV by 1-2 mL/kg IBW to max 8 mL/kg IBW ONLY if Pplat <30. Reassess plateau pressure to ensure <30 and reassess ventilation with VBG.
3. If continued critical acidosis, strongly consider placing arterial line and following ABGs.

Box 3E: If …. Elevated Pplat (>30)

1. Decrease TV to no less than 4-5 mL/kg IBW until Pplat <30 and reassess ventilation with VBG.
2. Consider transition to PC mode, with upper limit of PC = 30 and reassess ventilation with VBG.

Box 3F: If …. Hypotension

1. Assess volume status, and consider IVF resuscitation if clinically indicated.
2. Assess sedation, consider lightening sedation as tolerated (see Box 3B).
3. High suspicion for: PTX (recall DOPES), air trapping **(see box 3C)**