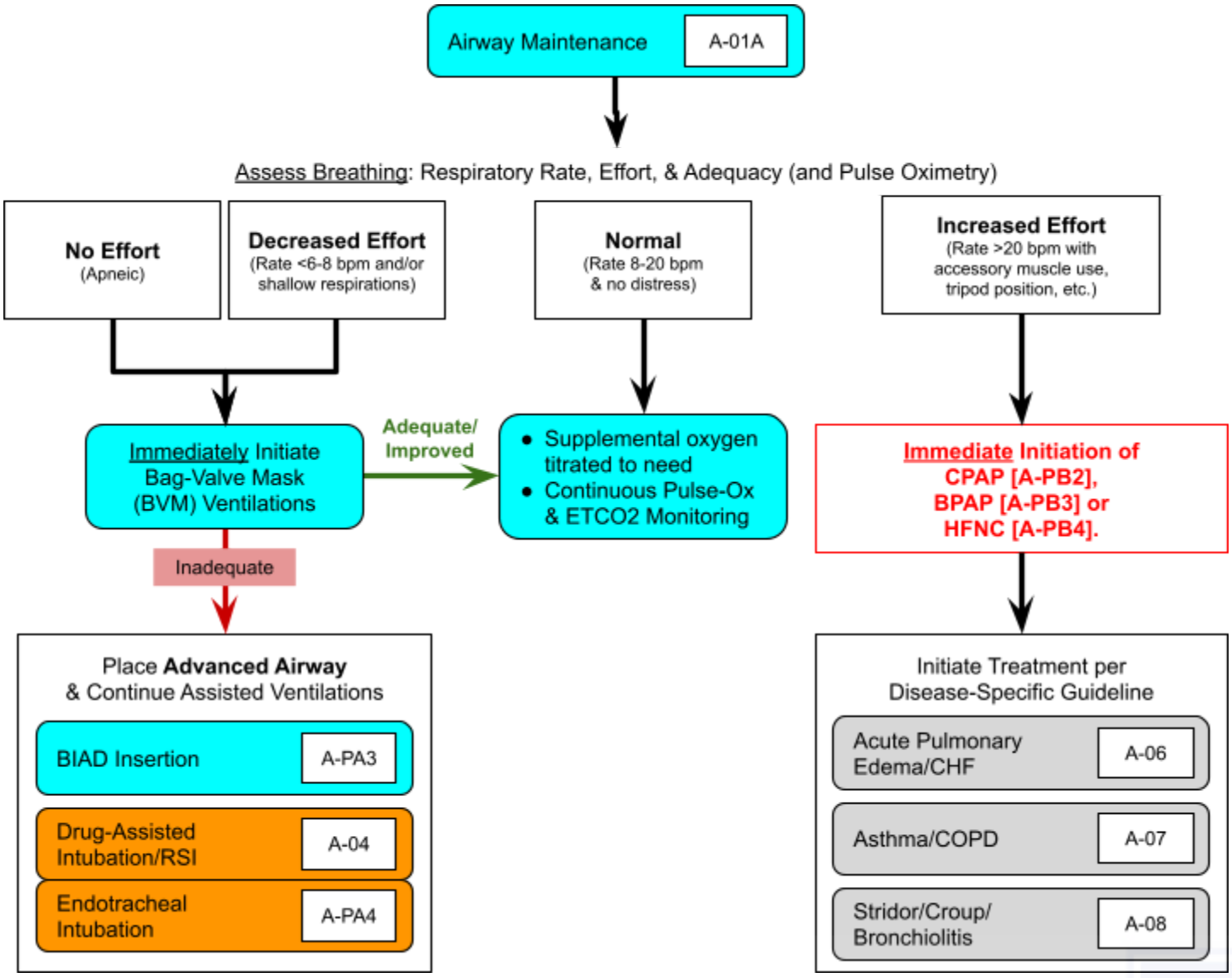
A-01B RESPIRATORY DISTRESS		First Responder EMT AEMT Paramedic



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NOTE: A Pediatric-Sized Ambu-Bag *may be considered* in ADULT patients

- The smaller reservoir provides adequate tidal volumes while protecting against hyperventilation/hyperinflation injury, gastric distention and increased intrathoracic pressures.
- A **"TWO-FINGER PINCH" technique** should ALWAYS be used with an adult-sized bag.

General Management of HYPOXEMIA

Normal **94-100%**	• Supportive care • Nasal Cannula (2-6 Lpm) or Non-Rebreather (NRB) mask (12-15 Lpm) may be considered if indicated per patient appearance and/or complaint.
Mild (Borderline) Hypoxemia **90-93%**	• **Nasal cannula (2-6 Lpm)**, or (if indicated per patient's condition/clinical guideline) a NRB mask (at 12-15 Lpm)
Moderate Hypoxemia **85-89%**	• Moderate-flow O2 via Nasal Cannula (4-6 Lpm) or **Non-rebreather mask (12-15 Lpm)** • Monitor for possible loss of airway patency • May consider use of CPAP, BPAP or HFNC if available
Severe Hypoxemia **≤ 84%**	• **Immediate Non-rebreather, CPAP, BPAP, HFNC or BVM** • Prepare to assist ventilations with bag-valve-mask @ 15 Lpm or advanced airway • Prepare for DAI/RSI and Intubation if not responsive to conservative treatment

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General Management of RESPIRATORY DISTRESS	
No Respiratory Distress	• Titrate supplemental oxygen as needed to the patient's condition & continue to monitor.
Mild-to-Moderate Distress	• Titrate supplemental oxygen as needed to the patient's condition • Consider the early use of Non-Invasive Ventilation (CPAP, BPAP or HFNC).
Severe Distress (Conscious)	• Titrate supplemental oxygen as needed to the patient's condition, generally starting with 100% FiO2. • **<u>Immediate</u> initiation of Non-Invasive Ventilation (CPAP, BPAP or HFNC).** • Monitor for possible loss of airway patency or the development of respiratory failure. Prepare to assist ventilations with BVM or advanced airway.
Unconscious with Adequate Respirations	• Titrate supplemental oxygen as needed to the patient's condition. • May consider Non-Invasive Ventilation (CPAP, BPAP or HFNC) in select situations. • Monitor for possible loss of airway patency or the development of respiratory failure. Prepare to assist ventilations with BVM or advanced airway.
Unconscious with Inadequate or No Respirations	• **Immediate assistance with BVM.** • Prepare for DAI/RSI and endotracheal intubation.

If Bi-Level Positive Airway Pressure [BPAP; A-PB3] is available, it is <u>preferred</u> in most patients. CPAP [A-PB2] use should be limited to providers without the equipment or credentialing for BPAP use.

High-Flow Nasal Cannula [A-PB4] is another option for patients with increased supplemental oxygen needs but limited needs for assisted ventilations. It may be considered **in patients who do not have respiratory distress or do not tolerate BPAP.**

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NOTES:

- Treat the patient and **NOT** the pulse oximeter's display**.**
- Always titrate supplemental oxygen to the lowest possible level to maintain oxygen saturation **(SpO2)** ≥ 94**%**, unless otherwise specified.

- Other key signs and symptoms must be assessed and evaluated so that the oximeter's readings are interpreted within the context of the patient's overall condition.
- Pulse Oximetry should be deferred until more urgent assessment and care priorities have first been resolved.
- It is useful both in the assessment of the patient and as an adjunct for evaluating the effectiveness of the airway management, ventilation, and oxygen enrichment provided.
- The pulse rate determined by the pulse oximeter is <u>not</u> an accurate indicator of the patient's pulse rate.

Falsely LOW readings may occur in:

- Patients with poor perfusion
  - Hypothermia/cold extremities
  - Hypovolemic/Hypotensive patients
- Patients with hemoglobin abnormalities

Falsely HIGH readings may occur in:

- Carbon monoxide poisoning
- Cyanide toxicity treated with the antidote
- Very bright lighting (direct sunlight or nearby strong lamp)

Other factors affecting accurate readings:

- Patient movement
- Action of vasopressor drugs
- Peripheral vascular disease
- Abnormal hemoglobin values (anemia)

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PEDS PEARLS:

- **In children <u>BRADYCARDIA = HYPOXIA</u>, until proven otherwise.**
- Pediatric is generally defined as age less than 10 yrs, less than 37 Kg, or any patient which can be measured with the Broselow Tape.
- The majority of these pediatric airways can be managed with basic interventions.
- Use only the interventions needed to deliver adequate oxygenation and ventilation.
- If an effective airway is being maintained by BVM with continuous pulse oximetry values of > 90, it is encouraged to continue with basic airway measures instead of Intubation.
- Ventilatory rate should be age appropriate to maintain a ETCO2 between 35 and 45.

- *Peds (Infant and Young Child)*: For a child with mild to moderate respiratory distress consider the “blow-by” technique. Hold the end of a supply tube or a nonrebreather mask approximately two inches away from the patient’s face. Another method to supply “blow-by” is with a paper cup. This can be done by pushing a supply tube through the bottom of the cup. Set the flow rate to 4-6 L/min.

PEDS: Age-appropriate Resp. Rate		Oxygen Delivery	
Age	Breaths/min	Devices	O2 Flow
Neonate	40	Nasal Cannula (Low flow)	2-4 L/min
Infants	30	Nonrebreathing Mask (High flow)	10-15 L/min
Children	20	Bag-Valve Mask (BVM)	15-25 L/min

QI Review Parameters:

1. {Pending}