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EMT Airway Management Study Guide

2025 Edition – NREMT & AHA BLS Aligned

This guide covers the entire airway domain for EMT certification and street practice. **Airway, Respiration & Ventilation** questions make up ~15–20% of the NREMT EMT cognitive exam (2025 format) and are heavily weighted in the psychomotor skills stations (BVM of Apneic Adult, Oxygen Administration, etc.).

> **Core EMT Airway Principle (2025):**
> Oxygen is a drug—give the right amount, the right way, at the right time. The only thing worse than no oxygen is too much oxygen in the wrong patient at the wrong moment. Always aim for **visible chest rise** and **SpO_2 94–98%** in most patients (avoid hyperoxia in post-arrest or COPD unless protocol directs otherwise).

⚠ **EMT Scope Reminder:** No endotracheal intubation, no supraglottic airways, no cricothyrotomy, no needle decompression. Your tools are **manual maneuvers, basic adjuncts (OPA/NPA), suction, oxygen devices, and BVM**. Master the basics—everything else builds on them.

Section 1: EMT Airway Decision Tree – "What Do I Do Right Now?"

Patient Presentation	First Action	If That Fails / Next Step	Key 2025 EMT Judgment Notes
Unresponsive, no breathing, no pulse	Start CPR immediately + attach AED	Open airway with head tilt-chin lift or jaw thrust during CPR	BLS arrest: compressions first, airway second. Do NOT delay compressions for airway.
Unresponsive, breathing adequately	Recovery position (if no trauma) + high-flow O_2 if SpO_2 <94%	Monitor closely; reassess every 5 min	Protect airway from aspiration. Recovery position is lifesaving in overdose/altered patients.
Responsive but inadequate breathing (shallow, slow, accessory muscles)	High-flow O_2 via non-rebreather + manual airway opening	Assist ventilations with BVM if no chest rise	"Inadequate" = RR <8 or >30, shallow effort, SpO_2 <90% despite O_2, or altered mental status. BVM early.
Snoring / gurgling / stridor in unresponsive patient	Jaw thrust + finger sweep (if visible object) + suction	Insert OPA (if no gag) or NPA (if semi-conscious)	Snoring = tongue obstruction. Jaw thrust is the EMT trauma airway gold standard.
Trauma patient, snoring respirations, SpO_2 dropping	Jaw thrust with manual c-spine stabilization	OPA if no gag reflex; NPA if gag present	2025 AHA update: If jaw thrust fails and airway remains obstructed, use head tilt-chin lift to secure airway (patency over strict c-spine in arrest scenarios).
Apneic adult, adequate BVM seal achieved	Ventilate 10–12 breaths/min (1 every 5–6 sec)	Reassess chest rise every few breaths	Visible chest rise only (~500–600 mL tidal volume). Avoid over-ventilation.

Section 2: Oxygen Delivery Devices – When & How Much (2025 Goals)

Device	Flow Rate	FiO_2	Best EMT Use Case	SpO_2 Target (2025)
Nasal Cannula	1–6 L/min	24–44%	Mild hypoxia, comfortable conscious patient	94–98% (avoid >98% in most patients)
Non-Rebreather Mask	10–15 L/min (reservoir must inflate)	60–90%	Severe hypoxia, pre-oxygenation, respiratory distress	94–98%
Bag-Valve-Mask (with reservoir)	15 L/min + reservoir	Near 100%	Apnea, inadequate breathing, cardiac arrest	Visible chest rise only – avoid gastric distension
Simple Face Mask	6–10 L/min	40–60%	Moderate hypoxia when non-rebreather not tolerated	94–98%

2025 Titration Emphasis:

- **Most patients:** SpO_2 94–98%
- **COPD patients** (if no acute exacerbation): 88–92% (avoid hyperoxia-induced CO_2 retention)
- **Post-cardiac arrest** (if ROSC): 94–98% (avoid PaO_2 >300 mmHg)
- **Never** routine high-flow O_2 in stable patients without hypoxia

Section 3: BVM Ventilation Mastery – The EMT Superpower

Rate & Volume (Adult)

- **Apneic patient:** 10–12 breaths/min (1 breath every 5–6 seconds)
- **Tidal volume:** Visible chest rise only (~500–600 mL)
- **Avoid:** Over-ventilation (causes decreased venous return → decreased cardiac output)

Two-Person BVM Technique (Gold Standard)

1. **Rescuer 1:** E-C clamp mask seal + jaw thrust
2. **Rescuer 2:** Squeezes bag slowly (1–2 seconds per breath)
3. High-flow O_2 + reservoir bag
4. Watch for chest rise; listen for gastric sounds

Common Deadly Mistakes:

- One-person BVM with poor seal → inadequate tidal volume
- Ventilating too fast → hyperventilation, barotrauma, aspiration
- No OPA/NPA when needed → tongue obstruction
- Ignoring SpO_2 drop → hypoxia worsens everything

NREMT BVM Skill Checklist Reminders:

- Verbalize BSI
- Assess responsiveness/breathing/pulse (≤10 sec)
- Open airway + high-flow O_2
- Ventilate immediately if apneic
- Two-person technique preferred
- Visible chest rise, no gastric distension

Section 4: Airway Adjuncts – OPA vs NPA

Device	Indications	Contraindications	Sizing	Insertion
OPA	Unresponsive patient with NO gag reflex	Any gag reflex, conscious patient	Corner of mouth to angle of jaw	Insert upside down, rotate 180° OR use tongue depressor
NPA	Semi-conscious patient, intact gag reflex, trismus	Severe facial trauma, basilar skull fracture (relative)	Tip of nose to earlobe	Lubricate, bevel toward septum, advance gently

NREMT Critical Point: If you insert an OPA and the patient gags—REMOVE IT immediately. Vomiting + aspiration = death.

Section 5: Suctioning Mastery

Rule	Details

Duration	Max 10 seconds per attempt (adult). Shorter for peds.
Depth	Only as deep as you can see (rigid). Measure catheter first (flexible).
Technique	Insert without suction, apply suction while withdrawing with circular motion.
Oxygenate	Pre-oxygenate before suctioning. Reoxygenate between attempts.

> **Suction = Hypoxia:** Every second of suctioning is a second without oxygen. Work fast, work efficient.

Section 6: High-Yield NREMT / Street Judgment Questions

1. Adult patient in cardiac arrest. You are alone. When do you ventilate?

→ **After 30 compressions (30:2 ratio).** Do NOT interrupt compressions for airway initially.

2. Unresponsive overdose patient, snoring respirations, SpO_2 92% on RA. Jaw thrust improves SpO_2 to 96%. Do you insert an OPA?

→ **No** – gag reflex may be present. Use NPA or maintain jaw thrust + high-flow O_2. Reassess constantly.

3. Trauma patient, jaw thrust fails to open airway, SpO_2 dropping. Protocol allows head tilt-chin lift if needed. Do you use it?

→ **Yes** (2025 AHA BLS update) → airway patency takes priority over strict c-spine protection in life-threatening hypoxia.

4. COPD patient, SpO_2 85% on RA, alert but dyspneic. Do you apply non-rebreather at 15 L/min?

→ **Start nasal cannula 2–4 L/min** → titrate to SpO_2 88–92%. Avoid high-flow unless acute severe exacerbation.

5. You are ventilating an apneic adult with BVM. How do you know you're ventilating adequately?

→ **Visible chest rise** with each ventilation. NOT the feeling of resistance or bag emptying.

6. During CPR, your partner is ventilating at 20 breaths/min. What do you say?

→ **"Slow down—we're over-ventilating."** Target is 10–12/min to avoid decreased venous return.

Section 7: "Sick or Not Sick" Airway Assessment

⚠ SICK Airway Signs (Act Fast!)

- Silent chest / no air movement
- Accessory muscle use / retractions / nasal flaring
- Tripod positioning / inability to speak full sentences
- SpO_2 <90% despite O_2
- Altered mental status + inadequate breathing

✔ NOT Sick Airway Signs (Monitor)

- Talking in full sentences
- Normal respiratory rate and effort
- SpO_2 ≥94% on room air or low-flow O_2
- Alert and oriented

Section 8: Quick Reference – Normal Values

Parameter	Normal Adult	Notes
Respiratory Rate	12–20/min	<8 or >30 = inadequate, assist ventilations
SpO_2	94–99%	Target 94%+ (88–92% in COPD)
Tidal Volume	~500 mL	Visible chest rise, not a number
BVM Rate (apnea with pulse)	10–12/min	1 breath every 5–6 seconds
Suction Duration	Max 10 sec	Shorter for peds; oxygenate between attempts

Master the EMT Airway

Master the EMT airway by obsessing over **two things**:

1. **Visible chest rise**
2. **SpO_2 response to your interventions**

Everything else is details.

Practice BVM on manikins until it's muscle memory. Ventilate like someone's life depends on it—**because it does**.

You've got this. The airway is yours to own.

The "ABC" Mantra for EMT Airway:

A – **Assess** the airway. Open? Obstructed? What sounds? (snoring, gurgling, stridor)

B – **Basic maneuvers first.** Head tilt-chin lift. Jaw thrust. Suction. OPA/NPA.

C – **Confirm ventilation.** Visible chest rise. SpO_2 improving. Skin color improving.