

- f. Cough
- g. Skin color (cyanosis or pallor), presence of diaphoresis
- h. Mental status, including anxiety
- i. Airway obstruction with foreign body or swelling (e.g., angioedema, posterior pharyngeal and laryngeal infections)
- j. Signs of a difficult airway (short jaw or limited jaw thrust or mobility, small thyromental space, upper airway obstruction, large tongue, obesity, large tonsils, large neck, craniofacial abnormalities, excessive facial hair, tracheostomyscar or evidence of other neck/facial surgery, trismus)
- k. Signs of fluid overload (e.g., ascites, peripheral edema)
- l. Traumatic injuries impairing upper and lower airway anatomy and physiology:
  - i. Facial injuries
  - ii. High spine injury (affecting phrenic nerve/intercostals)
  - iii. Neck injury (expanding hematoma, tracheal injury)
  - iv. Chest wall injury (bruising), including rib and sternal fracture, paradoxical chest motion, subcutaneous air, sucking chest wound

### **Monitoring**

1. Patients with significant respiratory distress should have continuous pulse oximetry and waveform capnography monitoring for both assessment and for guiding therapy
2. Pulse oximetry is indicated to assess oxygenation
3. Quantitative waveform capnography:
  - a. Is indicated:
    - i. For assessment and monitoring of ventilatory status in patients with significant respiratory distress, with or without airway adjuncts
    - ii. To assist in decision-making for patients with respiratory difficulty of unclear cause (e.g., bronchospasm vs. pulmonary edema) and to help direct therapy
    - iii. To evaluate acid-base status in critically ill patients
  - b. Is **not** indicated for every patient with shortness of breath. Rather, it is a monitoring and decision-making tool for patients with significant respiratory distress where interpretation of the capnography waveform and EtCO<sub>2</sub> values assist in determining the appropriate course of treatment for the patient as well as the patient's response

### **Treatment and Interventions**

1. Generally, the approach is to implement the interventions below in an escalating fashion to meet the patient care goals above
2. **Administer oxygen if needed** for air hunger or respiratory distress and titrate to a target SPO<sub>2</sub> of 94–98%. Depending on patient presentation, this may be accomplished with nasal cannula, nonrebreather, BVM, NIV
  - a. Even in apneic patients, starting passive oxygenation while escalating interventions are implemented may be useful
  - b. During CPR, maximal oxygen supplementation should be provided
  - c. Consider humidified oxygen for patients with tracheostomy (See [Tracheostomy Management Guideline](#))
3. **Open and maintain patent airway.** If needed,
  - a. Provide head tilt/chin lift, or jaw thrust if concern for potential spinal injury