Assessment and Emergency Care of Respiratory Emergencies

Scene Size-up

Scene Safety
Ensure scene safety and safe access to the patient. Consider that the patient may be in distress because of exposure to a toxic substance. Standard precautions should include a minimum of gloves and eye protection. A HEPA respirator should be considered if there is evidence of a communicable disease. Determine the number of patients; toxic environments may produce multiple patients. Assess the need for additional resources such as ALS, police, or specialized units.

Mechanism of Injury (MOI)/Nature of Illness (NOI)
Determine the NOI: Observe the scene and look for indicators of the NOI. Ensure that the respiratory emergency is not the result of a traumatic event. Usually the NOI can be determined by the patient’s chief complaint or by asking family members or bystanders. If the NOI is not evident, observe for signs of urticaria, chest pain, and fever. Look for a medical identification device.

Primary Assessment

Form a General Impression
Perform a rapid scan of the patient and observe overall appearance of the patient, age, and body position. Is the patient in the tripod position? Does the patient have a barrel chest? Observe work of breathing and circulation. Pale skin and cyanosis are indicators of poor perfusion. Determine level of consciousness using the AVPU scale. Is the patient calm or anxious? Is he or she able to speak in full sentences? Identify immediate threats to life. Determine priority of care based on the MOI/NOI. If the patient has a poor general impression, call for ALS assistance. A rapid visual scan will help you identify and manage life threats.

Airway and Breathing
Ensure the airway is open, clear, and self-maintained. If needed, open and maintain the airway using a modified jaw-thrust when a cervical spine injury is suspected and a head tilt–chin lift maneuver in nontraumatic situations. A patient with an altered level of consciousness may need emergency airway management. Consider inserting a properly sized oropharyngeal or nasopharyngeal airway. Assess for gurgling or stridor. Suction as needed. Evaluate the patient’s ventilatory status for rate and depth of breathing, respiratory effort, and tidal volume. Quickly assess the chest for DCAP-BTLS, accessory muscle use, and intercostal and abdominal muscle use, and treat any threats to life. Inspect for urticaria (hives), which may be present during an anaphylactic reaction. Assess lung sounds, and determine whether they are normal, decreased, abnormal, or absent. Administer high-flow oxygen at 15 L/min, providing ventilatory support as needed.

Circulation
Evaluate distal pulse rate, quality (strength), and rhythm. Tachycardia may be an indicator of respiratory distress or shock. Bradycardia might occur with a cardiac emergency, medication reaction, or poisoning. Observe skin color, temperature, and condition; look for life-threatening bleeding, and treat accordingly. The transport of oxygen may be reduced from a lack of red blood cells. If distal pulses are not palpable, assess for a central pulse.

Transport Decision
If the patient has an airway or breathing problem, signs and symptoms of internal bleeding, or other life threats, manage him or her immediately and consider rapid transport, performing the secondary assessment en route to the hospital. For stable patients without life threats, perform a thorough assessment and history on scene. Do not delay transport to manage non-life-threatening conditions; instead treat en route to the hospital.

NOTE: The order of the steps in this section differs depending on whether the patient is conscious or unconscious. The following order is for a conscious patient. For an unconscious patient, perform a primary assessment, perform a full-body scan, obtain vital signs, and obtain the past medical history from a family member, bystander, or emergency medical identification device.
### General Management of Respiratory Emergencies

Managing life threats to the patient's ABCs and ensuring the delivery of high-flow oxygen are the primary concerns with any respiratory emergency. Patients breathing at a rate of less than 8 breaths/min or greater than 30 breaths/min should have ventilations assisted with a bag-mask device. Continuously assess the patient's mental status, and provide emotional support as needed. Transport in the position of comfort. For all respiratory emergencies, make sure you have taken the appropriate standard precautions, including the use of a HEPA respirator.
Upper or Lower Airway Infection

Dyspnea from an upper airway infection may be from croup or epiglottitis. Patients should receive humidified oxygen if available. Patients who are sitting forward, seem lethargic, or are drooling may have epiglottitis. Do not force the patient to lie down or attempt to suction or insert an oropharyngeal airway because this may cause a spasm and a complete airway obstruction. Transport should be rapid.

Lower airway infections may be from the common cold, bronchitis, or pneumonia. Patients need supplemental oxygen, monitoring of vital signs, and transport to the hospital.

Acute Pulmonary Edema

Congestive heart failure or a toxic inhalation may cause the patient to have pulmonary edema. Place the patient in a position of comfort, usually sitting up. Administer high-flow oxygen and provide ventilatory support and suctioning as needed. Continuous positive airway pressure can be initiated if you are authorized to do so, or request ALS personnel to perform the procedure. Provide prompt transport to the hospital.

Chronic Obstructive Pulmonary Disease

Patients with COPD may be semiconscious or unconscious from hypoxia, a condition in which the body's cells and tissues do not get enough oxygen, or from carbon dioxide retention. They may appear to be in respiratory distress and/or be cyanotic. They may have pursed lips and may be using accessory muscles to breathe, including those in the neck and shoulders. Assist with the patient's prescribed inhaler if there is one. Document time and effect on patient with each use. Oftentimes, a patient with COPD will overuse an inhaler; watch for side effects. Transport patients with COPD as promptly as possible to the emergency department, allowing them to sit upright if this is most comfortable; breathing may be difficult when lying down. Treat with full-flow oxygen via nonrebreathing mask at 15 L/min and be aware that some patients have a reverse breathing reflex; too much oxygen can eliminate their stimulus to breathe. CPAP can be initiated if you are authorized to do so, or request ALS to perform the procedure.

Asthma, Hay Fever, and Anaphylaxis

Not all wheezing is the result of asthma! Obtain a thorough history from the patient or family. If the patient is wheezing and has asthma, assist with the patient's prescribed inhaler or administer a small-volume nebulizer containing albuterol. Provide supplemental oxygen and provide ventilatory support as needed. Patients whose asthma progresses to status asthmaticus require immediate transportation. Be prepared to assist their ventilations because they may become too exhausted to breathe.

Hay fever usually requires only support and transport, but if the condition has worsened from generalized cold symptoms, the patient may require supplemental oxygen and airway support. Anaphylaxis is a true emergency that requires rapid intervention and transport. Airway, oxygen, and ventilatory support are paramount. Determine if the patient has a prescribed EpiPen auto-injector and assist with administration by placing it in the patient's hand. Guide the EpiPen auto-injector to the patient's thigh (lateral aspect) at a 90° angle and administer the medication. Hold the auto-injector in place for 10 seconds. Transport promptly. Reassess the patient's condition en route to the hospital.
### Chapter 13  Respiratory Emergencies

**Pleural Effusion**
Treatment consists of removal of the fluid collected outside the lung. This must be performed by a physician in a hospital. Provide oxygen and support the ABCs, place the patient in a position of comfort, and transport promptly.

**Obstruction of the Airway**
Managing an airway obstruction is a priority. Use age-appropriate basic life support foreign body airway obstruction maneuvers to clear the airway. Administer supplemental oxygen, and transport the patient to the closest hospital. Some patients do not want to go to a hospital after the obstruction is cleared. Encourage them to be transported for evaluation of possible injury to the airway.

**Pulmonary Embolism**
Pulmonary embolism causes a ventilation-perfusion mismatch. The gas exchange is not able to take place, and the patient will become hypoxic. A sitting position is usually preferred by the patient. Ensure the airway is clear; hemoptysis should be cleared as it occurs. Provide supplemental oxygen and provide ventilatory support as needed. Cardiopulmonary arrest may occur with a pulmonary embolism.

**Hyperventilation**
Gather a thorough history, and attempt to determine the underlying cause because the hyperventilation may be the result of a serious problem. Do not have the patient breathe into a paper bag; this maneuver could make things worse. Instead, reassure the patient, administer supplemental oxygen, and provide prompt transport to the hospital.

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**Assessment and Emergency Care of Respiratory Emergencies, continued**

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