



Medication Administration

1. If wheezing is present, consider administering inhaled albuterol (2.5–5 mg) as nebulized, or four to eight puffs metered dose inhaler
2. Ipratropium 0.5 mg nebulized should be given in conjunction with albuterol, up to three doses

Patient Safety Considerations

1. Generally, speaking to patients with exposure to highly soluble airway/respiratory irritants you will find that they have self-extricated due to the warning properties such as the smell, rapidity of onset of irritation, and other symptoms
2. The less soluble agents may generate only an odor (e.g., mowed hay smell for Phosgene) and will have delayed serious symptoms such as acute pulmonary edema, hypoxia, and shortness of breath with minimal exertion

Notes/Educational Pearls

Key Considerations

1. Airway respiratory irritants can exacerbate underlying reactive airway diseases (e.g., asthma, chronic obstructive pulmonary disease (COPD)) and precipitate or exacerbate bronchospasm, respiratory distress, and hypoxia
2. As patients may be off gassing (particularly hydrogen sulfide and hydrogen cyanide) in the back of the transport vehicle, it is important to have adequate ventilation of the patient compartment
3. Removal from the toxic environment, oxygen (humidified if available), general supportive therapy, bronchodilators, respiratory support, and rapid transport are core elements of care as there are no specific antidotes for any of these inhaled agents except for heavy metals that may be chelated in-hospital after agent identification
4. Hydrogen sulfide causes the cells responsible for the sense of smell to be stunned into inaction and therefore with a very short exposure will shut down and the exposed victim will not perceive the smell, yet the victim continues to absorb the gas as it is still present
5. Inhaled agents have become popular as a means of committing suicide. If there is some form of suicide signage, hoses, or buckets of substances visible as you arrive at the vehicle or residence, immediately retreat to well ventilated area and don self-contained breathing apparatus (SCBA) before opening the vehicle or making entry as these gases may be highly concentrated and potentially lethal to EMS responders
6. Household bathroom, kitchen, and oven cleaners when mixed can generate various airway respiratory irritants (ammonia, chloramine, and chlorine gas releases are particularly common). A very common exposure is to chloramine, a gas liberated when bleach (hypochlorite) and ammonia are combined. Chloramine then hydrolyzes in the distal airways and alveoli to ammonia and hypochlorous acid
7. Sudden sniffing death can result from a single use of inhalant of abuse
 - a. Some inhalants can cause cardiac arrest due to dysrhythmias from irritated myocardium
 - b. This syndrome most often is associated with abuse of butane, propane, and effects of the chemicals in the aerosols

Pertinent Assessment Findings

1. Patient may describe a specific odor (chlorine swimming pool smell, ammonia smell,