

San Mateo County Emergency Medical Services  
**Inhalation Injury**

For any signs/symptoms related to inhaling a gas or substance other than smoke or carbon monoxide

**History**

- Type of exposure (heat, gas, chemical)
- Duration of exposure
- Time of injury
- Past medical history
- Other trauma
- Loss of consciousness

**Signs and Symptoms**

- Burns, swelling, pain
- Dizziness
- Loss of consciousness
- Hypotension/shock
- Airway compromise/distress could be indicated by hoarseness/wheezing
- Seizure/AMS after industrial or closed space fire, consider cyanide poisoning

**Differential**

- Foreign Body Aspiration
- Upper Respiratory Infection
- Asthma exacerbation
- Anaphylaxis
- COPD exacerbation
- Cyanide poisoning
- Thermal injury
- Chemical/Electrical injury
- Radiation injury
- Blast injury

**Scene safety. Quantify and triage patients. Load and go with assessment and treatment enroute to hospital**

Assess Airway

**No or Mild Airway Involvement**

Airway patent, no signs of edema, no stridor or change in voice, nasal hairs intact, low likelihood of airway involvement

If oxygen saturation  $\geq 92\%$   
Routine Medical Care

**Moderate Airway Involvement**

Suspected inhalation injury with only one of the following: Wheezing, change in voice, increased work of breathing/tachypnea.

E	Monitor and reassess
P	Apply Oxygen to maintain goal $SpO_2 \geq 92\%$
Cardiac monitor	
Consider, 12-Lead ECG	
Consider, 2 IV/IO sites	
Consider, Albuterol or Albuterol MDI with spacer or Levalbuterol	

Notify receiving facility.  
Consider Base Hospital  
for medical direction

Head Trauma

Pain

Burns

Carbon Monoxide/  
Cyanide

Hazmat

Hypotension

Eye Injury

**Severe Airway Involvement**

Accessory muscle use or altered breath sounds and definitive airway felt necessary  
OR  
Any combination of the following: Airway edema, stridor, change in voice, increased work of breathing/tachypnea.

Airway Field Procedure

E	Monitor and reassess
P	High flow Oxygen Regardless of $SpO_2$
Cardiac monitor	
Consider, 12-Lead ECG	
Consider, 2 IV/IO sites	
Albuterol or Albuterol MDI with spacer or Levalbuterol	
Epinephrine 1:1,000 nebulized for stridor	
CPAP	

Closest receiving facility  
for definitive airway.  
Consider Base Hospital  
for medical direction



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## Pearls

- Consider expedited transport for inhalation injury.
- Ensure patient is properly decontaminated before placing in ambulance and transport to hospital.
- Contact Hazmat or Poison Control Center with questions about chemical or guidance on immediate treatment.
- If able, obtain the name of chemical(s) patient was exposed to pass information along to receiving hospital staff.

