San Mateo County Emergency Medical Services

Pediatric Smoke Inhalation Injury

For patients with smoke inhalation

**History**
- Number and severity of other victims
- Industrial or residential fire
- Duration of inhalation
- Social history - smoking
- Past medical history
- Other trauma
- Odor

**Signs and Symptoms**
- Facial burns, pain, and/or swelling
- Cherry red skin
- 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
- Asthma exacerbation
- Cyanide poisoning
- Carbon monoxide poisoning
- Thermal injury
- Heart failure
- Acute respiratory distress syndrome

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

**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 ≥ 94%
  - Routine Medical Care

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

- Monitor and reassess
  - Apply Oxygen to maintain goal \( \text{SpO}_2 \geq 94\% \)
  - Cardiac monitor
  - Consider, IV
  - Consider, Albuterol
  - Use Broselow Tape; refer to dosing guide

- Notify receiving facility. Consider Base Hospital for medical direction

**Severe Airway Involvement**
Accessory muscle use or altered breath sounds
OR
Any combination of the following: Airway edema, stridor, change in voice, increased work of breathing/tachypnea.

- Monitor and reassess
  - High flow Oxygen Regardless of \( \text{SpO}_2 \)
  - Cardiac monitor
  - Consider, 12-Lead ECG
  - Consider, IV/IO
  - Albuterol
  - Use Broselow Tape; refer to dosing guide
  - Epinephrine 1:1,000 nebulized for stridor
  - Use Broselow Tape; refer to dosing guide
  - CPAP

Closest receiving facility for definitive airway. Consider Base Hospital for medical direction
Pearls
- 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.
- If able, remove patient’s clothing before placing in ambulance and transport to hospital.