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.

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 ≥ 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
  - Apply Oxygen to maintain goal \( \text{SpO}_2 \geq 92\% \)
  - Cardiac monitor

Consider, IV
- Consider, Albuterol
  - Use Broselow Tape; refer to dosing guide

P
- 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.

E
- 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

P
- 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

Approved Burn Receiving Centers
- St. Francis – San Francisco
- Valley Med. Center – San Jose
- UC Davis – Sacramento
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.