Pediatric Smoke Inhalation Injury

For patients with smoke inhalation

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

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

Effective November 2018

Treatment Protocol PR07

Effective April 2024

For patients with smoke inhalation

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

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.

Monitor and reassess
Apply Oxygen to maintain goal SpO2 ≥ 92%
Cardiac monitor
Consider, IV
Consider, Albuterol or Albuterol MDI with spacer or Levalbuterol
Use length-based 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 SpO2
Cardiac monitor
Consider, 12-Lead ECG
Consider, IV/IO
Albuterol or Albuterol MDI with spacer or Levalbuterol
Use length-based tape; refer to dosing guide
Epinephrine 1:1,000 nebulized for stridor
Use length-based tape; refer to dosing guide
CPAP

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

Pain
Burns
Carbon Monoxide/Cyanide
Hazmat
Hypotension
Eye Injury

SAN MATEO COUNTY HEALTH EMERGENCY MEDICAL SERVICES

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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.