



**BURN (THERMAL, ELECTRICAL, CHEMICAL) – PEDIATRIC**

**ALS STANDING ORDERS:**

1. For any burn injury occurring in an enclosed space or with smoke generated at the site:
  - ▶ *High-flow Oxygen by mask or nasal cannula (direct or blow-by) as tolerated (pulse oximetry may be inaccurate with smoke inhalation).*
2. Apply cooling measures if burn still symptomatic.
3. For wheezing or suspected smoke inhalation:
  - ▶ *Albuterol, Continuous nebulization of 6 mL (5 mg) concentration as tolerated.*
4. For pain, systolic BP > 80, **base contact required (CCERC base preferred) if ≤ 2 years of age** (do not inject medication or establish IV/IO through burned skin areas):
  - ▶ *Morphine sulfate: 0.1 mg / kg IV/IM (maximum single dose of 5 mg), may repeat once after 3 minutes for continued pain (do not exceed total combined administration of 10 mg).*
  - OR,
  - ▶ *Fentanyl 2 mcg/kg IN/IV/IM (maximum single dose of 50 mcg), may repeat once after 3 minutes for continued pain (do not exceed total combined administration of 100 mcg)*
5. For blood pressure ≤ 80 or signs of shock:
  - ▶ *Establish IV/IO access in non-burned skin area*
  - ▶ *Infuse normal saline 20 mL/kg IV/IO bolus (maximum 250 mL) and make BH contact (CCERC preferred). May repeat twice for total of 3 boluses as a standing order.*
6. Contact Base Hospital with CCERC pediatric base preferred for Burn Unit destination if any of the following burn criteria are met:

Mechanism of Injury:

- Suspected inhalation injury (patients burned in an enclosed space, patients with facial burns, hoarseness, dyspnea, soot in mouth, carbonaceous sputum, singed nasal hairs).
- Electric burns (including lightning injury).
- Chemical burns (including acids and bases).

Physiological alteration:

- Burns that involve the face, hands, feet, genitalia, perineum, or are circumferential.
- Patients with a pre-existing medical condition that may complicate management or prolong recovery (e.g. diabetes, renal failure, cardiac or pulmonary disease).

Total Burn Surface Area (TBSA):

- Second degree burns >10% total body surface area (TBSA).
- Any third degree burn.

Approved:

*Carl Schultz, MD*

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**TREATMENT GUIDELINES:**

**Suspected carbon monoxide poisoning (closed space burn, smoke inhalation, chemical fires):**

Pulse oximetry O<sub>2</sub> saturation will be inaccurate due to inability of pulse oximeter to differentiate between carbon monoxide and oxygen molecule.

**Chemical burns:**

- Brush away any remaining dry chemical.
- Irrigate burn wound and surrounding skin with copious and continuous water or saline flush to dilute and remove as much residual chemical as possible.
  - NOTE: Some chemicals are activated by water / fluids and might worsen the burn or create hazardous fumes; e.g., sodium, phosphorus, acetyl bromide, aluminum carbide, silicon tetrachloride.

**Electrical Burns:**

Electrical burns may often appear insignificant while causing marked muscle and soft tissue damage. Cardiac irritability may occur with electrical burns. Any burn from high voltage, defined as equal to or greater than 500-1000 volts alternating current in a pediatric burn victim, should be transported with ALS escort and cardiac rhythm monitoring as tolerated by the child.

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