



**BURN (THERMAL, ELECTRICAL, CHEMICAL) –
ADULT/ADOLESCENT**

ALS STANDING ORDERS:

1. For any burn injury occurring in an enclosed space or with heavy smoke generated at the site:
 - ▶ *High flow oxygen by mask 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, if BP greater than 90 systolic (do not inject medication or establish IV through burned skin areas):
 - ▶ *Morphine sulfate 5 mg (or 4 mg carpuject) IV/IM or IO (if already established for saline infusion), may repeat once in 3 minutes to control pain;*
OR,
Fentanyl 50 mcg IV/IM or Fentanyl 100 mcg IN, may repeat once in 3 minutes to control pain.
5. For blood pressure ≤ 90 or signs of shock (do not establish IV through burned skin areas):
 - ▶ *Establish IV access in non-burned area of skin*
 - ▶ *Infuse 250 mL Normal Saline bolus, may repeat up to maximum 1 liter to maintain adequate perfusion.*
6. Contact Base Hospital 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).
- Electrical burns (including lightning injury).
- Chemical burns (including acids and bases).

Physiological alteration:

- Burns that involve the face, hands, feet, genitalia, or perineum.
- Circumferential burns.
- 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) in any age group.
- Any third degree burn

Approved:

Carl Schultz, MD

Review Dates: 09/14, 11/16, 01/20, 2/24
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TREATMENT GUIDELINES:

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

Pulse oximetry O₂ 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 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.
- High voltage, greater than 500-1000 volts, alternating current burn victims should be transported with ALS escort and cardiac rhythm monitoring (contact Base Hospital for available Burn Unit).

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