# SAN FRANCISCO EMERGENCY MEDICAL SERVICES AGENCY

**Effective: 01/01/11** **Protocol: P-008**
**Supersedes: 02/01/05**

# BURNS

**SUBJECTIVE FINDINGS**

- Type and source of burn: thermal, chemical, electrical, steam.
- Injuries associated with burn event.

**OBJECTIVE FINDINGS:**

- Evidence of inhalation injury or toxic exposure, i.e. carbonaceous sputum, hoarseness, history of enclosed spaces, altered mental status or singed nasal hairs.
- **Extent of Burn:** Depth (full vs. partial thickness), and Total Body Surface Area (TBSA) affected. Remember - the surface area covered by one of the patient's hands equals one percent of their TBSA.
- Entrance or exit wounds if electrical or lightning strike.
- Associated trauma from explosion, electrical shock, or fall.

| BLS Treatment | ALS Treatment |
|---|---|
| • Routine Medical Care including:<br><br>**Thermal:**<br>• Stop the burning process.<br>• Remove jewelry and non-adhered clothing. Do not break blisters.<br>• Cover affected body surface:<br>- If **<**10% of body surface, cover with sterile, moist saline dressing.<br>- If **>**10% of body surface, cover with sterile or clean dry sheet.<br>• Prevent hypothermia.<br>•<br>**Chemical**<br>• Decontamination and HazMat procedures.<br>• Brush off dry powder, if present.<br>• Remove any contaminated or wet clothing (including underwear).<br>• Irrigate continuously with saline or water.<br>• TRANSPORT to appropriate facility (see PRECAUTIONS AND COMMENTS).<br>• Continue irrigation en route.<br><br>**Electrical**<br>• Moist dressing on any exposed, injured areas. | • Early ET intubation for patients with evidence of inhalation injury.<br>• Manage airway according to the Airway Management Protocol (P-004).<br>• Continuous cardiac monitoring.<br>• IV of NS.<br>• If partial or total thickness burns **>** 10% TBSA, consider fluid challenge 500ml NS, reassess and repeat if indicated.<br>• Monitor lung sounds.<br>• **Morphine sulfate** 4 mg slow IVP as needed for discomfort. May repeat as indicated if SBP **>** 100mmHg, to total dose of 20 mg.<br>• Consider **Ondansetron** 4 mg IV/IM for nausea/vomiting. May be repeated q 20" to a maximum dose of 12 mg. |

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**DOCUMENTATION**

- Estimation of % TBSA affected by burn.

-If **>** 10%, IV of NS, fluid challenge given as indicated.

**-Morphine sulfate** given if pain documented and SBP > 100 mmHg (and no contraindications to **Morphine sulfate**).

**PRECAUTIONS AND COMMENTS**

- Inhalation injuries are burn injuries and may cause delayed, but severe airway compromise. Be prepared for early ET intubation. Manage airway according to the Airway Management Protocol (P-004).
- Do not apply ice or ice water directly to skin surfaces as additional injury will result.
- Lightning injuries may cause prolonged respiratory arrest.
- Assume presence of associated multisystem trauma if patient presents with signs or symptoms of hypovolemia. See TRAUMA Protocol for associated trauma.
- Pediatric burn patients without associated trauma MUST be transported to St. Francis.

**DEFINITION OF MAJOR BURNS:**

- **Full Thickness:** any amount.
- **Partial Thickness:** 10% of TBSA.
- Burns of airway, face, eyes, ears, hands, feet, major joints, or genital area.
- Chemical, inhalation, or electrical burns.