



## TIME CRITICAL DIAGNOSIS RESOURCE

SUBJECT: <b>Burn Protocol for Emergency Medical Services</b>	Chapter: 2. Trauma
	Item: 2.3
REFERENCE: 190.200 RSMo	Page 1 of 3
	Date Issued: 3/3/10 (draft)

**DISTRIBUTION:** All Emergency Medical Services

**PURPOSE:** To provide guidance for the care of burn patients by emergency medical personnel when they first arrive on the scene and during transport.

1. Ensure that Airway, Breathing, and Circulation are addressed. **Protect Airway**
2. Treatment
  - a) Eliminate source of burn.
  - b) Determine percent of body surface area (BSA) and depth.
  - c) Treat associated trauma.
  - d) Dress wounds appropriately:
    - i. Dry, sterile dressings
    - ii. Moist dressings for burns less than 9% BSA
3. DO NOT GIVE ANYTHING BY MOUTH.
4. DO NOT PLACE ICE OR ICE PACKS ON ANY PATIENT WITH BURNS GREATER THAN 5% TOTAL BODY SURFACE AREA.
5. **Patients presenting with altered mental status or nausea with vomiting, seizures, loss of consciousness or marked dyspnea in the face of suspected carbon monoxide or toxic inhalation with or without minor burns should be placed on high flow oxygen, 100% O<sub>2</sub>. Patients in closed space incidents are more likely to manifest these symptoms. Consider intubation as patients may require emergent airway management.**
6. Indications for Transport to a Center Specializing in Burn
  - a. Second and third degree burns ~~[vs partial and full thickness?]~~ greater than 10% body surface area (BSA) in patients under 10 or over 50 years of age
  - b. Second and third degree burns ~~[vs partial and full thickness?]~~ greater than 20% body surface area (BSA) in any patient
    - i. 10-20% 2<sup>nd</sup> or 3<sup>rd</sup> degree ages >10 and < 50: Transport according to local regional protocol
  - c. Burns of the face, hands, feet, genitalia, perineum, or major joints
  - d. Electrical burns, including lightning or contact with high voltage (200 volts or greater) - to field triage protocol?
  - e. Chemical burns
  - f. Suspected inhalation injury  
(Assess airway for direct thermal injury as noted by singed nasal hairs,

### 2.3 Burn Protocol, continued (3-3-10)

facial burns, and soot in mouth.) Patients with suspected inhalation injury may need emergent airway management- in field triage protocol.

- g. Circumferential burns
  - h. Burn injury in patients with preexisting medical conditions that could complicate management, prolong recovery, or affect mortality (COT)
7. Patients with burns and trauma should be referred to the nearest appropriate trauma center, not a burn center.
  8. Children who meet burn inclusive criteria who have not reached their 15th birthday should be transported to a pediatric burn center.
  9. Consider utilizing aero medical resource if patient is more than 30 minutes from a burn center by ground.
  10. Initiate IV/IO access in unburned area, if possible. Otherwise initiate an IV/IO access in an area of burn per local regional protocol or after discussion with on-line medical control, if unable to obtain an IV in unburned area. Secure IV/IO access.
  11. If age-related vital signs and patient's condition indicate hypo perfusion (65 mmHg for ages 0-1, 75mmHg ages 2 to 5, < 80 mmHg ages 6-12) and administer initial fluid bolus of 20 mL/kg isotonic crystalloid IV/IO. If patient's condition does not improve, administer the second bolus of fluid at 20 mL/kg isotonic crystalloid IV/IO.
    - a. Consider additional fluid administration
    - b. Titrate to a systolic pressure appropriate for age and injury pattern
    - c. Maximum dose 2,000 mL or 40 ml/kg for pediatric patients without on-line medical control
    - d. Call medical control for persistent signs and/or symptoms of hypoperfusion.
  12. Consider narcotic administration per regional/local protocol for pain management.
  13. Continue general patient care.

**Note:** Adapted from *the Maryland Medical Protocols for Emergency Medical Services Providers, Effective July 1, 2009* Maryland Institute for Emergency Medical Services Systems and *Pre-Hospital Treatment Protocols, Seventh Edition, Effective 6/6/08, Massachusetts Department of Public Health-Emergency Medical Services.*

## Burn Center Guidelines

The committee on Trauma of the American College of Surgeons (ACS) and the American Burn Association (ABA) have identified that **the following injuries generally require referral to a burn center.**

1. Partial thickness burns greater than 10% total body surface area (TBSA)
2. Burns that involve the face, hands, feet, genitalia, perineum, or major joints
3. Third-degree burns in any age group
4. Electrical burns, including lightning injury
5. Chemical burns
6. Inhalation injury
7. Burn injury in patients with preexisting medical disorders that could complicate management, prolong recovery, or affect mortality Burns in any patients with concomitant trauma (such as fractures) in which the burn injury poses the greatest risk of morbidity or mortality. In such cases, if the trauma poses a greater immediate risk than the burns, it may be necessary to stabilize the patient in a trauma center before being transferred to a burn unit. Physician judgment is necessary in such situations and should be in concert with established triage protocols.
8. Burns in children being cared for in hospitals without qualified personnel or equipment for the care of children
9. Burn injury in patients who will require special social, emotional, or long-term rehabilitative intervention.

## American Burn Association Categorization of Burns

### MAJOR BURN

- 25% of BSA or greater
- Functionally significant involvement of hands, face, feet, or perineum
- Electrical or Inhalation Injury
- Concomitant Injury or severe pre-existing medical problems

### MODERATE BURN

- 15-25% BSA
- No complications or involvement of hands, face, feet, or perineum
- No electrical injury, inhalation injury, concomitant injury
- No severe pre-existing medical problem

### MINOR BURN

- 5% or less BSA
- No involvement of hands, face, feet, or perineum.
- No electrical burns, inhalation injury, severe pre-existing medical problems, or complications