**Purpose:** **To provide a process for assessment and management of the burned patient, regardless of the cause.**

**M B S P** **I. Assessment Information**

A. History:
1. Past Medical History: prior cardiac or pulmonary disease, medications
2. Current History: time elapsed since burns, closed space with steam or smoke, electrical contact, loss of consciousness, accompanying explosion, toxic fumes and specific source of burn

B. Specific Objective Findings:
1. Vital signs
2. Extent of burns: description or diagram of areas involved
3. Depth of burns: superficial - erythema only; partial/full thickness - blistered or charred areas
4. Evidence of CO poisoning or other toxic inhalation: altered mental state, headache, vomiting, seizure, or coma
5. Evidence of inhalation burns: respiratory distress, cough, hoarseness, singed nasal or facial hair, soot or erythema of mouth
6. Entrance and exit wounds for electrical burns should be documented and treated.
7. If major associated trauma, see Trauma Protocol.
8. If only a toxic inhalation, see Poisoning protocol.

**NOTE:** **Major Burn = > 10% BSA or involves face, perineum, hands or feet. Also electrical injury with visible injury (burns).**

**II. Management**

**M B S P** A. Utilize universal precautions

B. Evaluate and maintain the airway, provide oxygenation and support ventilation as needed. **Always administer at high concentration of oxygen if CO toxicity is suspected.**

**S P** C. Obtain vascular access

**M B S P** **D. THERMAL BURNS:**
1. Remove clothing which is smoldering or which is non-adherent to the patient. Stop the burning process.
2. Assess and treat for associated trauma (blast or fall).
3. Remove rings, bracelets, and other constricting items.
4. If partial/full burn is 'moderate-to-severe' (more than 10% or 10 palm-sizes), cover wounds with dry clean dressings.
5. Use cool, wet dressings in smaller burns (less than 10%) for patient comfort.
6. **If partial or full thickness burn is greater than 10% body surface area or involves the face, perineum, hands or feet:**

**S P** a. **Administer fluid bolus of 20 ml/kg in adult or peds.**

**S P** b. Transport to the Burn Unit, or as designated by area Destination Policy.

c. Patients with burns not meeting the criteria outlined in "II. D. 6." may be transported to any emergency department.

**CONTACT MEDICAL CONTROL**

7. **Possible orders post-radio contact:**

**P** a. Consider pain management per procedure

S P b. Additional IV fluids

M B S P **E. THERMAL INHALATION INJURY:**

S P 1. Intubate early if strong signs of airway burns. Consider the use of 1/2 to one size smaller ET tube if tracheal edema makes intubation difficult.

P 2. Monitor EKG.

S P 3. Patients with signs of thermal inhalation injury should be transported to the Burn Unit, or as designated by area Destination Policy.

**CONTACT MEDICAL CONTROL**

4. **Possible orders post-radio contact:**

P a. Consider sedation prior to intubation per procedure
b. Consider pain management per procedure.

**NOTE: For a non-thermal toxic inhalation, see Poisoning Protocol.**

**F. CHEMICAL BURNS:**

M B S P 1. Protect rescuers from contamination. Wear appropriate protective barriers.
2. Remove all clothing and any solid chemical which might provide continuing contamination.
3. Assess and treat for associated injuries.
4. Unless the patient's condition warrants immediate transport:
   a. Decontaminate patient using running water for 15 min. prior to transport.
   b. Check eyes for exposure and rinse with free-flowing water for 15 minutes.
   c. Whenever possible, conduct decontamination enroute.
5. Evaluate for systemic symptoms which might be caused by chemical contamination. Contact medical control for possible treatment.
6. Remove rings, bracelets, constricting bands.
7. Wrap burned area in clean, dry cloths for transport. Keep patient as warm as possible after decontamination.
8. If partial or full thickness burn is greater than 10% body surface area or involves face, perineum, hands or feet:
   a. Administer fluid bolus of 20 ml/kg in adult or peds.
   b. Transport to Burn Unit, or facility as designated by area Destination Policy.
   c. Monitor EKG.

**CONTACT MEDICAL CONTROL**

9. **Possible orders post-radio contact:**

P a. Consider sedation prior to intubation per procedure
b. Consider pain management per procedure.

**G. ELECTRICAL INJURY:**

M B S P 1. Protect rescuers from continued live electric wires.
2. Separate patient from electrical source when area safe for rescuers.
3. Initiate CPR as needed. Defibrillation (per Cardiac Arrest protocols) and prolonged respiratory support may be needed.

4. Provide spinal immobilization; assess for other injuries.

**P** 5. Monitor patient EKG for possible arrhythmias. Treat as per specific arrhythmia protocol.

**S P** 6. Administer fluid bolus of 20 ml/kg IVP in adult or peds.

7. Entrance and exit wounds should be documented and treated.

**S P** 8. Transport

a. If evidence of entrance or exit wounds, transport to Burn Unit, or facility as designated in area Destination Policy.

**CONTACT MEDICAL CONTROL**

**9. Possible orders post-radio contact:**

a. Consider pain management per procedure.

**III. SPECIAL CONSIDERATIONS:**

A. Assume carbon monoxide poisoning in all closed space burns. In addition, other toxic products of combustion are commonly encountered. Call Medical Control for special instructions if other toxic inhalations are suspected.

B. Patients exposed to toxic inhalation with the potential for inhalation injury, but without signs of obvious thermal inhalation or major burn injury, should be transported to a facility with hyperbaric oxygen therapy resources.

C. Suspect airway burns in any facial burns or burns received in closed places. Edema may become severe, but not usually in the first hour. Avoid unnecessary trauma to the airway. Humidified $O_2$ is useful if available.

D. Lightning injuries can cause prolonged respiratory arrest. Prompt, continuous respiratory assistance and CPR (sometimes for hours to days) may be necessary.

E. Leave blisters intact when possible.