Assessment and Initial Care of Burn Patients

1. Stop Further Injury
   A. Remove victim from source
   B. Extinguish and remove burning clothing
   C. Chemical burns
      1. Avoid self-injury: wear eye protection, gloves and protective clothing
      2. Remove all contaminated clothing
      3. Continuous copious water lavage
      4. Prolonged eye irrigation

2. Maintain Ventilation
   A. Administer humidified 100% oxygen by mask to treat possible carbon monoxide poisoning
   B. Examine airway looking for signs of inhalation injury
      1. Singed vibrissae (nasal hairs)
      2. Carbonaceous material in upper airway
      3. Edema or inflammatory changes in oral pharynx/upper airway
   C. Maintain airway
      1. As appropriate, raise head of bed to decrease pharynx/upper airway
      2. Early endotracheal intubation if indicated
      a. Associated neck injury
      b. Associated significant chest wall injury (i.e., flail chest)
      c. Acute airway edema/severe inhalation injury
      3. Mechanical ventilation if intubated
      4. If not intubated, ongoing monitoring for airway compromise: stridor, hoarseness, raspy cry

3. CPR as Indicated

4. History
   A. Allergies
   M. Medications
   P. Past history/injuries; Pregnancy
   L. Oral intake
   E. Events (circumstances of injury, possible abuse, history of enclosed space fire, drug/alcohol use)
   T. Tetanus and immunization status

5. Physical Examination
   A. Check for associated injuries
   B. Estimate extent and depth of burn injury using the Rule of Nines
      1. Total Burn Surface Area (TBSA) estimation should only include
         2nd degree (partial thickness) and 3rd degree (full thickness) injuries
      2. For scattered burns, use patient’s own palmar surface (palms and fingers), which is roughly equal to 1% TBSA
   C. Weigh the patient before fluid resuscitation
   D. Obtain glucose on pediatric patients

6. Intravenous Fluid Therapy
   A. Required for patients with burns > 20%
   B. Secure large bore IV cannula in adequate vein or establish IO. Two large bore peripheral IV lines preferred for burns > 30%. IV/IO can be placed through burned skin if necessary
   C. Place indwelling urinary catheter and attach to a closed drainage system (as indicated)
   D. Estimate fluid needs for first 24 hours postburn (deliver 1/2 over first 8 hours, and remaining 1/2 over next 16 hours)
      ■ Adults: LR 2mL/kg/TBSA
      ■ Children < 14 yrs. or < 40kg: LR 3mL/kg/TBSA
      ■ Infants < 10kg: Add D5LR at maintenance rate to IV/IV resuscitation
      ■ Electrical burns: LR 4mL/kg/TBSA
      ■ Tinted IV resuscitation based on urine output
      ■ Adults: 0.5mL/kg/hr
      ■ Children: 1mL/kg/hr

7. Maintenance of Peripheral Circulation in Patients with Circumferential Extremity Burns
   A. Remove rings and bracelets
   B. Clinical signs of impaired circulation include:
      1. Cyanosis
      2. Delayed capillary refill
      3. Progressive neurological signs; i.e., Paresthesias and deep tissue pain
   C. Doppler determination of peripheral pulse
   D. Escharotomy (consult Burn Center)
   E. Fasciotomy – Only indicated when compartment syndrome develops despite escharotomy (This is an operating room procedure)

8. Gastric Tube
   Place gastric tube and attach to suction if:
   ■ > 20% TBSA
   ■ Nausea, vomiting or abdominal distention
   ■ Intubated patient
   ■ Indicated with associated trauma

9. Analgesic Medication
   IV/IO analgesia is preferred route during initial post injury period. Give small, frequent doses

10. Tetanus Prophylaxis as Dictated by Patient’s Immunization Status

11. Initial Burn Wound Care
   A. Cleanse wound with soap and water
   B. Debride (remove loose skin/blisters) and apply topical antimicrobial therapy if transfer is delayed >24 hours
   C. Cover burns with a dry sterile dressing or cover with a clean, dry sheet
   D. Keep patient warm

12. Criteria for Referral to Hospitals with Burn Capabilities
   1. 2nd degree (partial thickness) > 10% TBSA
   2. 3rd degree (full thickness) in all age groups
   3. Burns of face, hands, feet, genitalia, perineum or major joints
   4. Electrical/lightning injury
   5. Chemical burns
   6. Airway/inhalation injury
   7. Significant associated injury or pre-existing disease that may complicate management
   8. Suspected child abuse
   9. Burned children at hospitals without pediatric capabilities
   10. Burn patients requiring special social, emotional or rehabilitation intervention

13. Guidelines, Admission and Transfer Criteria
   Criteria should be modified according to the judgment and experience of the attending physician and the burn care resources available at institution involved. For less severe burns or burns that do not meet transfer criteria but still need a burn specialist, obtain a referral to an outpatient burn clinic.

14. Other Considerations
   Other disorders also treated by hospitals with burn capabilities include but are not limited to: Fournier’s Gangrene, Necrotizing Fasciitis, Erythema Multiforme, Steven Johnson’s Syndrome, Toxic Epidermal Necrolysis Syndrome (TENS).

15. Burn Mass Casualty Incident
   During a burn mass casualty incident, criteria for referral to a hospital with burn capabilities may need to be altered. Hospitals that typically would transfer burn patients may need to care for these patients for a longer period of time than under normal circumstances. Transfer coordination will occur through the State Burn Coordinating Center (SBCC). The SBCC advises and provides the Illinois Department of Public Health (IDPH) with burn subject matter expertise. For more information, review both the IDPH and your Regional Medical Disaster Plan Burn Surge Annex.

Illinois Hospitals with Burn Capabilities*
- American Burn Association, Burn Center Verification
- For some areas in Illinois, the closest hospital with burn capabilities may be in a border state.

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