Burns

Signs and Symptoms

- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension/shock
- Airway compromise
- Singed facial or nasal hair
- Carbonaceous sputum
- Hoarseness/wheezing

History

- Type of exposure
  - Heat
  - Gas
  - Electrical
  - Chemical
- Inhalation injury
- Time of injury
- Potential spinal injury or other trauma
- Loss of consciousness
- Lightning or electrical explosion
- Single or multiple victims
- Duration of exposure
- Voltage and current (AC/DC)

Differentials

- Superficial (1°) red and painful
- Partial thickness (2°) blistering
- Full thickness, (3°) white or charred skin appearance
- CO or cyanide exposure

Care

B E I P

Follow General Directive #3, Orders for all Patients.

Stop burning process and expose patient.

Remove rings, bracelets, and other constricting items if possible.

Consider spinal immobilization.

What type of burn?

Thermal

B E I P

If burn < 10% BSA (using Rule of Nines) cool down the wound with water or Normal Saline

Cover burn with dry sterile sheet or dressing. (if eyes are involved, refer to Trauma Protocol #3 Eye Injuries)

E I P

Initiate **IV Normal Saline** and deliver 500 ml Bolus

Consider **Fentanyl** (**Sublimaze®**) 100-200mcg IV/IM or **Morphine** 5-10mg IV/IM (may repeat dose twice as needed)

Electrical

B E I P

Look for entry/exit wounds apply dressings as needed.

E I P

Initiate **IV Normal Saline** and deliver 500ml bolus as needed

Consider pain management

I P

Perform 12 lead ECG and continuous 3 lead monitoring

B E I P

Follow appropriate protocol based on symptoms.

Chemical

B E I P

Brush off any visible dry chemicals or powder and irrigate with large volumes of saline or water taking care to avoid hypothermia.

If eye(s) is involved, continuous saline flush (refer to Trauma Protocol #3 Eye Injuries).

E I P

Initiate **IV Normal Saline** and deliver 500ml Bolus as needed

Consider **Fentanyl** (**Sublimaze®**) 100-200mcg IV/IM or **Morphine** 5-10mg IV/IM (may repeat dose twice as needed)

B E I P

Determine burn severity. Critical burn patients should generally be directed to the Burn center at Washington Hospital Center

Consult with Medical Control on most appropriate destination and further management as needed.

Pearls

- **Critical burn patients include:**
  - Partial or full thickness burns involving hands, feet, face or genitilia.
  - Respiratory burns.
  - Partial or full thickness burns > 10% of body surface.
  - Circumferential burns to extremities.
  - Lightning or severe electrical burns.
- Early intubation may be required on significant inhalation injuries, consider diversion to closest ED, or utilization of air-medical RSI.
- Circumferential burns to extremities are dangerous due to potential vascular compromise secondary to soft issue swelling.
- Burn patients are prone to hypothermia — never use ice to cool burns.
- Use caution when cooling burns greater than 10% BSA.
- Use care when cutting/removing clothing or PPE as there may be adherent skin.
- Do not overlook possibility of multi-system trauma including c-spine injuries.
- Do not overlook the possibility for child abuse when dealing with children and burn injuries.
- In a mass casualty lightning incident, attend to patients found in full arrest first (differs from standard START triage). These patients are often resuscitated with adequate CPR and ALS.
- When dealing with chemicals, consult with hazmat on best method of decontamination. Do not expose EMS personnel to inhalation of powdered chemicals.

Performance indicators

- Complete exposure of patient.
- Aggressive fluid resucitation and pain management as approriate.