Chemical and Electrical Burn

**History**
- Type of exposure (heat, gas, chemical)
- Inhalation injury
- Time of Injury
- Past medical history / Medications
- Other trauma
- Loss of Consciousness
- Tetanus/Immunization status

**Signs and Symptoms**
- Burns, pain, swelling
- Dizziness
- Loss of consciousness
- Hypotension/shock
- Airway compromise/distress could be indicated by hoarseness/wheezing / Hypotension

**Differential**
- Superficial (1st Degree) red - painful (Don’t include in TBSA)
- Partial Thickness (2nd Degree) blistering
- Full Thickness (3rd Degree) painless/charred or leathery skin
- Thermal injury
- Chemical – Electrical injury
- Radiation injury
- Blast injury

**Ensure Chemical Source is NOT Hazardous to Responders.**
Ensure electrical source is NOT in contact with patient before touching patient.

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**Assess Burn / Concomitant Injury Severity**

- < 5% TBSA 2nd/3rd Degree Burn
  - No inhalation injury, Not Intubated, Normotensive GCS 14 or Greater
  - Minor Burn

- 5-15% TBSA 2nd/3rd Degree Burn
  - Suspected inhalation injury or requiring intubation
  - Hypotension or GCS 13 or Less (When reasonably accessible, transport to a Burn Center)
  - Serious Burn

- >15% TBSA 2nd/3rd Degree Burn
  - Burns with Multiple Trauma and/or definitive airway compromise
  - (When reasonably accessible, transport to a Burn Center)
  - Critical Burn

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**Age Appropriate Airway Protocol(s) AR 1-7**

- **Eye Involvement**
  - Immediately irrigate involved eye(s) with Sterile Water/Normal Saline/Lactated Ringer’s (whichever is most readily available) for 15 – 30 minutes
  - May repeat as needed

- **Morgan Lens Procedure**
  - if indicated

- **Chemical Exposure / Burn**
  - Flush Contact Area with Normal Saline or Sterile Water for 15 minutes

- **Decontamination Procedure**
  - if indicated

- **Age Appropriate Cardiac Protocol(s)**
  - if indicated

- **Thermal Burn Protocol TB-9**
  - If indicated

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**Ensure appropriate Law Enforcement, Fire and HAZMAT responses as indicated**

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**Rapid Transport** to appropriate destination using **Trauma and Burn: EMS Triage and Destination Plan**

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**Revised**
5/2019

Clinical Operating Guidelines TB-2
This protocol has been altered from the original NCCEP Protocol by the Durham County EMS Medical Director
Pearls

- **Recommended Exam:** Mental Status, HEENT, Neck, Heart, Lungs, Abdomen, Extremities, Back, and Neuro

- **Refer to Rule of Nines:** Remember the extent of the obvious external burn from an electrical source does not always reflect more extensive internal damage not seen.

- **Standard triage systems do not apply.**

**Chemical Burns:**

Refer to Decontamination Procedure.

Normal Saline or Sterile Water is preferred, however if not available, do not delay irrigation and use tap water. Other water sources may be used based on availability.

Flush the area as soon as possible with the cleanest readily available water or saline solution using copious amounts of fluids.

For eye irrigation patients will tolerate Lactated Ringer’s Solution better than Normal Saline, however both are effective at normalizing the PH of the eye following exposure; choose whichever fluid is most readily available for irrigation.

**Electrical Burns:**

DO NOT contact patient until you are certain the source of the electrical shock is disconnected.

Attempt to locate contact points (generally there will be two or more.) A point where the patient contacted the source and a point(s) where the patient is grounded.

Sites will generally be full thickness.

**Do not refer to as entry and exit sites or wounds.**

Cardiac Monitor: Anticipate ventricular or atrial irregularity including VT, VF, atrial fibrillation and / or heart blocks.

Attempt to identify the nature of the electrical source (AC / DC), the amount of voltage and the amperage the patient may have been exposed to during the electrical shock.