

TREATMENT:

- A. Secure scene ensuring rescuer safety, then help victim.
- B. Stop the burning process.
 - a. Remove clothes, flood with water ONLY if flames or smoldering is present.
- C. Establish ABCs.
 - a. Consider CO poisoning if patient was in a confined space.
 - b. If in respiratory distress, administer Oxygen 100%, assist ventilations as needed, and intubate as needed.
 - c. Remove constricting/obstructing clothing and jewelry.
 - d. If shock is present, consider underlying causes.
- D. Transport ASAP to the most appropriate facility. Enter patient into Trauma System as per trauma system entry and guidelines protocol.
- E. Cool burned areas (less than 10 minutes for large burns) then cover with dry sterile dressings. Discontinue cooling if patient begins to shiver. Attempt to leave unbroken blisters intact.
- F. Treat pain per Pain Management protocol.
- G. Evaluate degree of burn and % of second and third degree burns
 - a. Use patient's palm as reference for 1% BSA.
- H. Critical burns are defined as:
 1. Any degree 25% or more of body surface area.
 2. Full thickness burn greater than 10% of body surface area.
 3. Burns with inhalation injuries.
 4. Electrical burns
 5. Burns to hands, feet, genitalia, facial or circumferential burns.
 6. Burns in high risk patients (pediatrics, elderly, significant cardiac or respiratory problems)
- I. Dress burns with dry dressings. Consider wet dressing if burn is 5% or less.
- J. Start 2 large bore IVs in unburned areas if possible and administer fluids per appropriate formula below.
- K. If chemical burn:
 1. Consider Haz-Mat response.
 2. Protect yourself from contamination. (See HazMat protocol)
 3. Flush contaminated areas with copious amounts of water.
 4. If chemical is dry, carefully brush off prior to flushing.
- L. If electrical burn:
 1. Make sure victim is de-energized.
 2. Apply sterile dressings to entry and exit wounds. Suspect internal injuries.
 3. Treat any dysrhythmias per appropriate Cardiac Dysrhythmia protocol.

PEDIATRIC PATIENTS:

- A. Treat pain per Pain Management protocol.
- B. Consider possibility of non-accidental cause in children.

FLUID RESUSITATION FORMULAS:

1. IV fluids should be warmed. Preferred fluid for burns is Lactated Ringers, Normal Saline is an acceptable alternative.

2. Less than 30 minute transport time:
 - a. Older than 14 years old
 - i. 500ml/hr
 - b. Older than 6 years old, younger than 13 years old
 - i. 250ml/hr
 - c. Less than 6 years old
 - i. 125ml/hr
3. Greater than 30 minute transport time:
 - a. Calculate percentage of second and third degree burns
 - b. **PARKLAND FORMULA:**
 - i. **2ml x patient weight in kg x % of 2nd and 3rd degree burns**
 - ii. Administer half the total fluid within 8 hours of the burn
 - iii. Administer the second half over the next 16 hours
4. Electrical Burns:
 - a. 4ml x patients weight in kg x % of 2nd and 3rd degree burns

KEY CONSIDERATIONS:

Enclosed space, airway sounds, possibility of inhaled toxins, past medical history, CO/Cyanide poisoning, evidence of respiratory burns, extent of burns, explosion or trauma injuries. If airway burns are suspected, aggressively manage airway EARLY!

RULE OF NINES:

