

# EL DORADO COUNTY EMS AGENCY

## PREHOSPITAL PROTOCOLS

Effective: July 1, 2015

Reviewed: July, 2017

Revised: July 2017, 2019



EMS Agency Medical Director

### BURNS

#### ADULT

#### BLS TREATMENT

**ABCs / ROUTINE MEDICAL CARE** – Stop burning process. Remove all clothing and jewelry. Administer high-flow oxygen for any patient in respiratory distress. Be prepared to support ventilation with appropriate airway adjuncts.

#### **BURN CARE:**

**Thermal Burns:** Stop the burning process with water or saline, if indicated.

Use dry sterile burn dressings to avoid hypothermia.

Cover patient with sterile burn sheet(s) and blanket(s) to preserve body heat.

**Caustic and Chemical Burns:** Wear protective clothing and gloves and consider the presence of hazardous materials. Remove source of burn and all of the patient's clothing, then for:

**Liquid Substances (acids, alkalis):** Flush with copious amounts of water. Do not scrub.

**Dry Chemicals:** Brush powders off then flush with copious amounts of water (Exception: dry lime, metallic sodium or lithium).

**Electric Burns:** May produce extensive damage not apparently visible from surface wounds. For this reason, all patients suffering from an electric burn should be placed on a cardiac monitor. For arrhythmias following electrical burns, refer to appropriate protocol.

**CPAP** – Consider for patients with respiratory distress.

**PROTOCOL PROCEDURE:** Consider early notification of base station for destination decision.

#### ALS TREATMENT

**ADVANCED AIRWAY** - Consider early if evidence of airway burns.

**FREQUENT BLOOD SAMPLE/GLUCOSE LEVEL ASSESSMENTS** - obtain blood sample via finger stick or venipuncture. Rule out hypoglycemia. Refer to ALOC protocol/formulary for dextrose/glucagon dosing.

**NORMAL SALINE** – establish warm IV or IO. If partial or total thickness burns > 10% TBSA, give fluid challenge 1000-2000 mL NS, reassess and repeat if indicated.

**CONSIDER PAIN MANAGEMENT** – refer to formulary for pain control options.

**CONSIDER DUONEB IF BRONCHOCONSTRICTION IS PRESENT** - administer ALBUTEROL – 2.5 mg in normal saline mixed with ATROVENT 0.5 mg in normal saline via nebulizer. If severe symptoms persist, initiate continuous ALBUTEROL via nebulizer (Max. 15 mg/hr). Do not repeat Atrovent.

**FOR STRIDOR secondary to airway burns:** Administer **NEBULIZED EPINEPHRINE 1:1,000** 5mL (5mg) via nebulizer given over 5 minutes (MR q 10 minutes). This should be in addition to IM epinephrine.

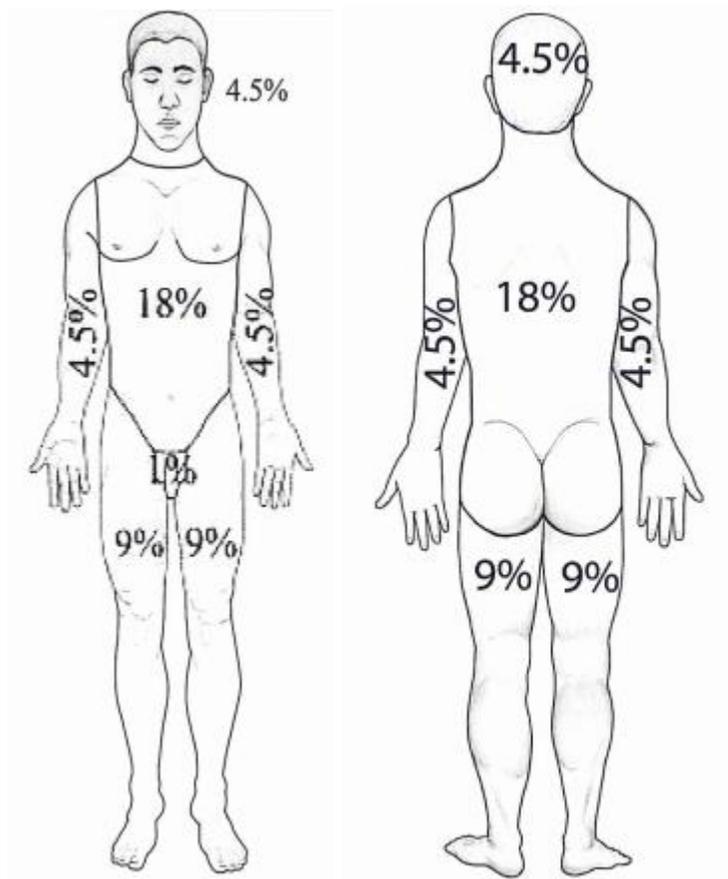
#### CONTACT BASE STATION

**DISPOSITION** - Burn victims should be transported to the closest trauma center (level I, II, or III). Burn victims **do not necessarily need to be transported** to a burn center for initial care.

Consider utilizing an air ambulance or rapid ground transport to closest ER for the following patients:

- Airway involvement (consider need for RSI)
- Facial Burns (consider possible airway involvement)
- Unable to establish IV/IO access in significant (> 25% TBSA) burns

#### Adult Rule of Nines Chart:



**PEDIATRIC****BLS TREATMENT**

**ABCs / ROUTINE MEDICAL CARE** – Stop burning process. Remove all clothing and jewelry. Administer high-flow oxygen for any patient in respiratory distress. Be prepared to support ventilation with appropriate airway adjuncts.

**BURN CARE:**

**Thermal Burns:** Stop the burning process with water or saline, if indicated.

Use dry sterile burn dressings to avoid hypothermia.

Cover patient with sterile burn sheet(s) and blanket(s) to preserve body heat.

**Caustic and Chemical Burns:** Wear protective clothing and gloves and consider the presence of hazardous materials. Remove source of burn and all of the patient's clothing, then for:

**Liquid Substances (acids, alkalis):** Flush with copious amounts of water. Do not scrub.

**Dry Chemicals:** Brush powders off then flush with copious amounts of water (Exception: dry lime, metallic sodium or lithium).

**Electric Burns:** May produce extensive damage not apparently visible from surface wounds. For this reason, all patients suffering from an electric burn should be placed on a cardiac monitor. For arrhythmias following electrical burns, refer to appropriate protocol.

**PROTOCOL PROCEDURE:** Consider early notification of base station for destination decision. Pediatric burn victims should be transported to the closest trauma center (level I, II, or III). Burns in combination with serious trauma should be transported to a pediatric trauma center.

**ALS TREATMENT**

**Advanced Airway** - Consider early if evidence of airway burns.

**FREQUENT BLOOD SAMPLE/GLUCOSE LEVEL ASSESSMENTS** - obtain blood sample via finger stick or venipuncture. Rule out hypoglycemia. Refer to ALOC protocol/formulary for dextrose/glucagon dosing.

**Hypoglycemia in pediatrics is defined as:**

<b>Neonate</b>	<b>&lt; 1 month:</b>	<b>(b.s. <math>\leq</math> 50 mg/dL)</b>
<b>Infant/child</b>	<b>&gt;1 month:</b>	<b>(b.s. <math>\leq</math> 60 mg/dL)</b>

**NORMAL SALINE** – establish warm IV or IO.

If partial or total thickness burns > 10% TBSA, give fluid challenge 20 mL/kg NS, reassess and repeat if indicated. For hypotension/signs of compensatory shock refer to the pediatric SHOCK protocol.

**CONSIDER PAIN MANAGEMENT** – refer to formulary for pain control options.

**CONSIDER DUONEB IF BRONCHOCONSTRICTION IS PRESENT** - administer ALBUTEROL – 2.5 mg in 3ml NS mixed with ATROVENT 0.5 mg in normal saline via nebulizer. If severe symptoms persist, initiate continuous ALBUTEROL via nebulizer (Max. 15 mg/hr). Do not repeat Atrovent.

**FOR STRIDOR secondary to airway burns:** Administer **NEBULISED EPINEPHRINE 1:1,000** 0.5mL/kg (Max single dose of 5mL) via nebulizer over 10 minutes. For doses less than 3mL dilute with NS to 5mL to allow for nebulization (MR q 10 minutes). This should be in addition to IM epinepharine.

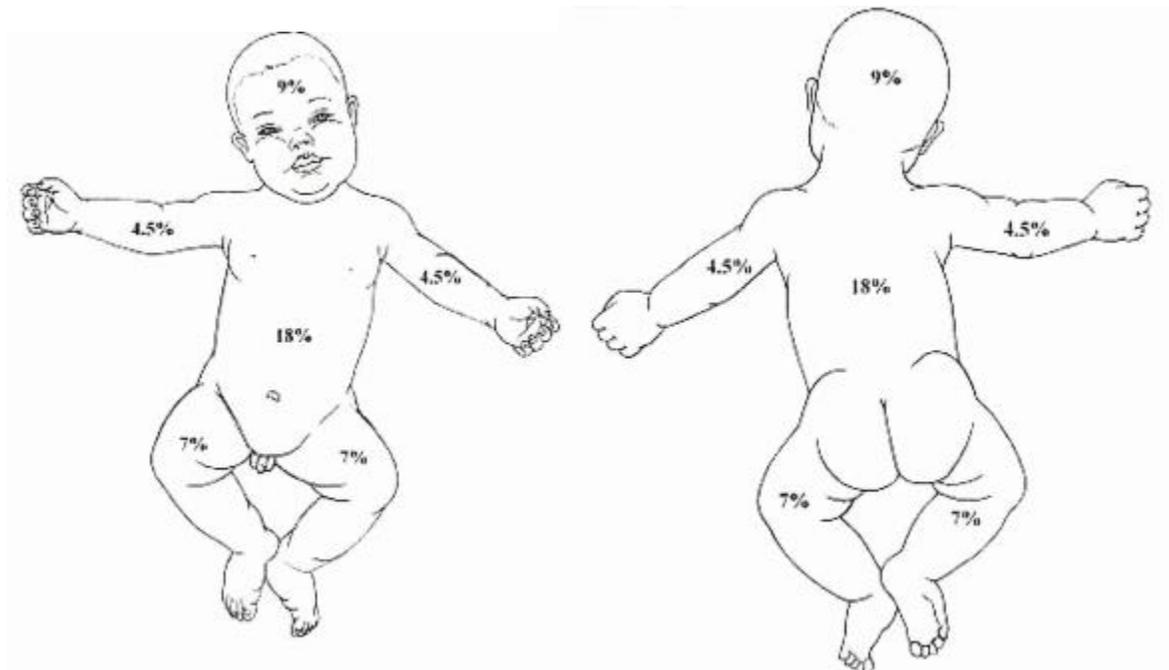
#### CONTACT BASE STATION

**DISPOSITION** - Burn victims should be transported to the closest trauma center (level I, II, or III). Burns in combination with serious trauma should be transported to a pediatric trauma center. Burn victims **do not necessarily need to be transported** to a burn center for initial care.

Consider utilizing an air ambulance or rapid ground transport to closest ER for the following patients:

- Airway involvement (consider need for RSI)
- Facial Burns (consider possible airway involvement)
- Unable to establish IV/IO access in significant (> 25% TBSA) burns

#### Pediatric Rule of Nines Charts:



**Parkland Formula**

<b>% Burn</b>	<b>10kg</b>	<b>20kg</b>	<b>30kg</b>	<b>40kg</b>	<b>50kg</b>	<b>60kg</b>	<b>70kg</b>	<b>80kg</b>	<b>90kg</b>	<b>100kg</b>
<b>10</b>	25	50	75	100	125	150	175	200	225	250
<b>20</b>	50	100	150	200	250	300	350	400	450	500
<b>30</b>	75	150	225	300	375	450	525	600	675	750
<b>40</b>	100	200	300	400	500	600	700	800	900	1,000
<b>50</b>	125	250	375	500	625	750	875	1,000	1,125	1,250
<b>60</b>	150	300	450	600	750	900	1,050	1,200	1,350	1,500
<b>70</b>	175	350	525	700	875	1,050	1,225	1,400	1,575	1,750
<b>80</b>	200	400	600	800	1,000	1,200	1,400	1,600	1,800	2,000
<b>90</b>	225	450	675	900	1,125	1,350	1,575	1,800	2,025	2,250
<b>20ml/kg</b>	200	400	600	800	1,000	1,200	1,400	1,600	1,800	2,000

This table represents the fluid recommended in the first (1/8 of the initial 8 hour dose) by the Parkland formula.

The second dose, administered over the second 16 hours, is equal to the amount given in the initial dose.

The final/bottom represents the amount of a 20mL/kg bolus