

Patient Name: \_\_\_\_\_ MR#: \_\_\_\_\_

Account #: \_\_\_\_\_ DOB: \_\_\_\_\_ Date: \_\_\_\_\_

<b>Patient Weight (kg):</b>	<b>Weight (kg):</b> _____
<b>Time of Injury (Military Time):</b>	<b>Time:</b> _____
<b>Amount of fluids patient has received (mLs): (In EMS and ER care)</b>	Fluids received in EMS(mLs): _____ Fluids received in ER (mLs): _____
<b>%TBSA Burned: (Consider 2<sup>nd</sup> and 3<sup>rd</sup> degree burn only)</b>	<b>%TBSA Burned:</b> _____
<b>Parkland Formula:</b> <b>4ml x Weight (kg) x %TBSA Burn = Total fluid over 24hours</b>  <b>* (½ of Total – Fluids received in EMS/ER care = Total fluid required in 8hours from time of injury)</b>  <b>Insensible Loss:</b> (25+%TBSA burned) x BSA (in M <sup>2</sup> )  <b>Maintenance Fluid Rate:</b> Weight (kg) + 40mL + Insensible Loss	<b>Total Fluid Requirements over 24hours:</b>  _____  <b>Insensible Loss:</b>  _____  <b>Maintenance Fluid Goal:</b>  _____
<b>UOP Goal:</b> (0.5ml/kg) until Maintenance is reached for 24 hours post burn Electrical injuries: ask attending	<b>UOP Goal:</b> _____

1. RN/MD will complete table above.
2. If patient
  - a. 0-10%TBSA Burned and no inhalation injury follow "Burn order set 1"
  - b. 11-19%TBSA Burned and no inhalation injury follow "Burn order set 2"
  - c. >20%TBSA Burned and no inhalation injury follow "Burn order set 3"
  - d. Any inhalation injury at discretion of attending provider follow "Burn Order set 4"
  - e. Electrical burn follow "Burn order set 5"
3. Burn attending/Burn resident orders burn order set as it applied to patient condition.

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### Burn Order Set 1

1. Patient will be designated floor/acute acuity. Patient will have priority to other floor patients on burn unit (6E). If patient has a circumferential burn, facial burns, or special circumstance such as abuse, patient has priority over nonburn patients and should be admitted as stepdown.
2. Patient VS will be monitored every hour for 2 hours, and every 4 hours for remainder of admission unless acuity changes. Cardiac monitoring indicated according to co-morbidities.
3. Patients I/O will be monitored every 4 hours.
4. Patient will be placed on "regular diet" or restricted diet based on co-morbidities. Water permitted only for medication administration.
5. Patient will be placed on "Ad-lib" activity.
6. If burn is circumferential on an extremity/torso neurovascular monitoring will be assessed by RN every 4 hours. Circumferentially burned extremities should be elevated above the level of the heart.
7. Initial wound care: Wash with chlorhexidine soap to all sites, except face, rinse, and pat dry. Apply physician ordered ointment. Wrap in bulk gauze and secure appropriate to site burned. Burn attending evaluation will occur within 24 hours.
8. Admission labs: CBC, BMP, PT/INR. ABG and carboxyhemoglobin if burn occurred inside a structure. Pregnancy test if applicable.
9. Peripheral IV access preferred in unburned extremity.
10. Pain medication: may use PO with intermittent IV pain medication.
11. IV fluid resuscitation not indicated.



**Clark Burn Center  
Burn Resuscitation**

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## Burn Order Set 2

1. Patient will be designated "step-down" acuity. Patient will have priority to other "Step-down" patients on burn unit (6E).
2. Patient VS will be monitored every hour for 2hours, and every 2hours for remainder of admission unless acuity changes. Cardiac monitoring indicated.
3. Patients I/O will be monitored every 2hours.
4. Patient will be placed on "High calorie/High Protein diet" and restricted diet based on co-morbidities.
5. Patient will be placed on "Ad-lib" activity. Physical therapy/occupational therapy consults placed within 24 hours.
6. If burn is circumferential on an extremity/torso neurovascular monitoring will be assessed by RN every 2hours and elevated above the level of the heart
7. Initial wound care: Wash with chlorhexidine soap to all sites, except face, rinse, and pat dry. Apply physician ordered ointment. Wrap in bulk gauze and secure appropriate to site burned. Burn attending evaluation will occur within 24 hours.
8. Admission labs CBC, BMP, Ca, Mg, Phos. ABG if inhalation or flame burn occurred inside. Pregnancy test if applicable
9. Peripheral IV access preferred in unburned extremity
10. Pain medication: PO meds may be used with expected use of IV medication for breakthrough. PCA also an option.
11. Resuscitation order set at discretion of attending physician. See Oral Resuscitation Protocol.



**Clark Burn Center**  
**Burn Resuscitation**

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### Burn Order Set 3

1. Patient will be designated "ICU" acuity. Patient will have priority to other "ICU" patients on burn unit (6E).
2. Patient VS will be monitored for every 1hour and every 15minutes should patient require vaso-active medications.
3. Patients I/O will be monitored strictly every 1hour.
4. Patient will be placed on "High calorie/High Protein diet" and restricted diet based on co-morbidities. Dietician consult will be complete in 24hours. Gastric feeding tube placed within 4hours of admission to inpatient unit unless contraindicated.
5. Patient will be placed on "bed-rest" activity. Physical therapy/occupational therapy order placed within 24hours.
6. If burn is circumferential on an extremity/torso neurovascular monitoring will be assessed by RN every 1hours and the extremity elevated above the level of the heart.
7. Initial wound care: Wash with chlorhexidine soap to all sites, except face, rinse, and pat dry. Apply physician ordered ointment. Wrap in bulk gauze and secure appropriate to site burned. Burn attending evaluation will occur within 24 hours.
8. Admission labs CBC, BMP, Ca, Mg, Phos, Vit D, Lactic Acid, ABG
9. Central IV access preferred if peripherals are not available. Central line should be placed in an unburned area if possible, preferred Subclavian or IJ.
10. Pain Medication: IV pain medication indicated.
11. Resuscitation order set indicated. See Appendix A and B for algorithm.



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**Burn Resuscitation**

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### Burn Order Set 4

1. Follow order set based on % TBSA burned plus the following.
  1. Bronchoscopy will be performed by attending physician after 6 hours to 24 hours of inpatient admission.
  2. Oxygen requirement 100% FiO<sub>2</sub> until Carboxyhemoglobin level is 5 or below
  3. Inhaled heparin/albuterol/mucomyst protocols.
  4. APRV is the preferred vent setting.
  5. Cyanokit is usually given in the ER setting for cyanide toxicity. This is suspected if the carboxyhemoglobin is elevated >10.
  6. Stable burns with pregnancy and elevated carboxyhemoglobin >10; symptoms of CO poisoning such as nausea, headache, or altered level of consciousness; or carboxyhemoglobin >20 may have HBO therapy. Ongoing lactic acidosis is also a consideration.

Fluid Resuscitation of the Adult Acute Burn Patient  
Begin using Lactated Ringers at rate calculated by  
the Parkland Formula on page 1

Vital Signs Unstable: HR>140 or  
MAP <60

Call Burn Resident/Burn Attending  
Physician

Vital Signs Stable: HR <140, MAP>60

Urine Output  
<15mL/hr

Urine Output  
15-29ml/hr

Urine Output  
30-50mL/hr

Urine Output  
>50mL/hr

Urine Output  
>200mL/hr

Increase IVF  
rate by 20% or  
200mL/hr \*

Increase IVF  
rate by 10% or  
100mL/hr\*

Leave IVF at  
current rate

Decrease IVF  
rate by 10% or  
100mL/hr\*

Decrease IVF rate every ½ hr by  
10% or 100mL/hr\*  
Assess patients MAP, HR, Blood  
Sugar before decreasing

Repeat step one every hour until:

Urine Output  
<15mL/hr for  
two hours  
despite  
increase in IVF  
rate

Calculate Maintenance Rate  
(Found on page 1) is reached  
and held for two hours **AND** the  
patient is at least 24 hours post  
burn

Call Burn  
Resident/Burn  
Attending &  
Consider  
beginning the  
Albumin  
Protocol

Fluid  
Resuscitation is  
**Complete**  
Maintain Goal  
Rate  
(Do not titrate  
below)

If fluid rate exceeds two times total fluid  
calculated in Parkland Formula **OR** at  
hour 6 from time of injury **OR** UOP <15ml for  
two hours despite fluid increase

Call Burn Resident/Burn Attending to  
begin:  
Albumin Protocol

Start 5% Albumin at ½ current IVF rate  
Lactated Ringers at ½ current IVF rate

Urine Output  
<30mL/hr for two  
hours

Urine Output  
>30mL/hr

5% Albumin at ½ current IVF rate  
Lactated Ringers at ½ current IVF rate

Titration to  
maintenance goal  
at discretion of  
burn attending

\*Whichever greater

UOP = Urine Output  
IVF = IV Fluids  
< = Less than  
> = Greater than

## References

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