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.
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.
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 2 hours, and every 2 hours for remainder of admission unless acuity changes. Cardiac monitoring indicated.
3. Patients I/O will be monitored every 2 hours.
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 2 hours 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.
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 1 hour and every 15 minutes should patient require vaso-active medications.
3. Patients I/O will be monitored strictly every 1 hour.
4. Patient will be placed on “High calorie/High Protein diet” and restricted diet based on co-morbidities. Dietician consult will be complete in 24 hours. Gastric feeding tube placed within 4 hours of admission to inpatient unit unless contraindicated.
5. Patient will be placed on “bed-rest” activity. Physical therapy/occupational therapy order placed within 24 hours.
6. If burn is circumferential on an extremity/torso neurovascular monitoring will be assessed by RN every 1 hour 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.
11. Resuscitation order set indicated. See Appendix A and B for algorithm.
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% FiO2 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: Increase IVF rate by 20% or 200mL/hr *
- 15-29mL/hr: Increase IVF rate by 10% or 100mL/hr *
- 30-50mL/hr: Leave IVF at current rate
- >50mL/hr: Decrease IVF rate by 10% or 100mL/hr *
- >200mL/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

If fluid rate exceeds two times total fluid calculated in Parkland Formula OR at hour 6 from time of injury OR UOP <15mL/hr 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 ⅓ current IVF rate

If Urine Output <30mL/hr for two hours:

5% Albumin at ½ current IVF rate
Lactated Ringers at ⅓ current IVF rate

If Urine Output >30mL/hr:

Titration to maintenance goal at discretion of burn attending

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

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

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


Fahlstrom, Kyra, RN BSN, CCRN; Boyle, Cameron, RN, MS, CCRN; Flynn Makic, Mary Beth, RN PhD, CNS, CCNS. (2014). Implementation of a nurse driven burn resuscitation protocol: A quality improvement project. *Critical Care Nurse, 33*(1), 25-35.


Klein, Mathew B, MD; Hayden, Douglas, MS; Elson, Constance, PhD; Nathens, Avery, MD, PhD, MPH; Gamelli, Richard L., MD; Gibran, Nicole S., MD; Herndon, David N, MD; Arnoldo, Brett, MD; Silver, Geoff, MD; Schoenfield, PhD, Tomplkins, Ronald G., MD, PhD. (2007). The association between fluid administration and outcomes following major burns: A multicenter study. *Annals of Surgery, 245*(4), 622-628.
