

## I. Burn Resuscitation Protocol

- A. Document patient's TBSA burn using Lund-Browder diagram (Rule of Nines Diagram). Include only partial and full-thickness burns.
- B. Obtain weight or close estimate.

## II. First 24 Hours Post Burn

### A. TBSA < 20%

Maintenance IVF only until taking adequate oral intake.

### B. TBSA ≥ 20% and Weight ≥ 30kg

1. Calculate estimated fluid needs:
  - a) 2-4cc of LR X kg of body weight X %TBSA burned:
    - administer half of calculated amount over the first 8 hours post burn
    - administer half of calculated amount over next 16 hours
  - b) If urine output < ½ cc/kg/hour (goal is 30-50 cc/hour):
    - increase LR infusion by 1/3 of the hourly calculated fluid requirement
  - c) If urine output > 70 cc/hour:
    - dip urine to exclude glucosuria
    - decrease LR infusion by 1/3 of the hourly calculated fluid requirement

### C. TBSA ≥ 20% and Weight < 30kg

1. Calculate estimated fluid needs:
    - a) 3-4 cc of LR\*\* X kg of body weight X % TBSA burned
      - administer half of calculated amount over the first 8 hours post burn
      - administer half of calculated amount over next 16 hours
    - b) In addition to burn fluid requirements, also infuse maintenance IVF (calculated total for 24 hours):
      - 100 cc X first 10 kg of body weight
      - 50 cc X next 10 kg of body weight
      - 20 cc X next 10 kg of body weight
    - c) If urine output < 1 cc/kg/hour:
      - increase LR infusion by 1/3 of the hourly calculated fluid requirement
    - d) If urine output >> 1 cc/kg/hour:
      - decrease LR infusion by 1/3 of the hourly calculated fluid requirement
- (\*\*use D5LR if patient ≤ 1 year old)

**D. Place enteral feeding tube as soon as possible for all burns ≥ 20% TBSA.**

**E. Consider Swan-Ganz placement for intubated patients with TBSA ≥ 30%, age > 50 years and/or inhalational injury.**

## III. Treatment of Low Urine Output

- A. In adult patients with continued low urine output despite increased fluid rates:
  1. place Swan-Ganz catheter for monitoring
    - a) if central pressures normal to high with low urine output:
      - start low dose Dobutamine @ 5 mcg/kg/min
      - titrate to effect
    - b) if central pressures are low with low urine output:
      - continue fluid resuscitation at increased rate

## IV. After 24 Hours Post Burn

- A. Serum Na<sup>+</sup> and K<sup>+</sup> should be checked at least BID on the second burn day.
- B. Adjust type of fluid by the serum Na<sup>+</sup> level.
- C. After 24 hours of crystalloid, if fluid requirements high, consider 5% albumin infusion (discuss with attending).
- D. Goal is to decrease IVF rate to one half of rate infused over the previous 16 hours.
  1. If patient >30 kg, urine output goal of ½ cc/kg/hour (maximum 50cc/hour)
  2. If patient ≤30 kg, urine output goal of 1 cc/kg/hour