

Burn MCI: Fluid Resuscitation Overview

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 \geq 30kg**

1. Calculate estimated fluid needs

- a. 2cc of LR X kg body weight X %TBSA burned: --
administer half of calculated amount over the first 8 hours post burn
-- administer half of calculated amount over the next 16 hours
- b. If urine output < $\frac{1}{2}$ 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 > 70cc/hour
-- dip urine to exclude glucosuria
-- decrease LR infusion by 1/3 of the hourly calculated fluid requirement

C. **TBSA \geq 20% and Weight < 30kg**

1. Calculate estimated fluid needs

- a. 3 cc of LR X kg of body weight X % TBSA burned (if \leq 1 year old use D5LR)
-- administer half of calculated amount over the first 8 hours post burn
-- administer half of calculated amount over the 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 body weight
-- 20 cc X next 20 kg body weight
- c. If urine output < 1cc/kg/hour
-- increase LR infusion by 1/3 of the hourly calculated fluid requirement
- d. If urine output > 1cc/kg/hour
-- decrease LR infusion by 1/3 of the hourly calculated fluid requirement

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

III. Treatment of Low Urine Output

A. In adult patients with continued low urine output despite increased fluid rates

1. Place Cardiac Output Monitoring Device

- 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 Sodium and Potassium should be checked at least BID on the second burn day
- B. Adjust type of fluid by the serum Sodium level
- C. After 24 hours of crystalloid, if fluid requirements high, consider 5% albumin infusion (refer to SBCC)
- D. Goal is to decrease IVF rate to one half of rate infused over the previous 16 hours
 - 1. If patient > 30kg, urine output goal of $\frac{1}{2}$ cc/kg/hour (max 50cc/hour)
 - 2. If patient \leq 30 kg, urine output goal of 1 cc/kg/hour