

Burn – Resuscitation:

Approach: Burn shock during the initial 24 to 48 hours following major burns is characterized by myocardial depression and increased capillary permeability resulting in large fluid shifts and depletion of intravascular volume. Rapid, aggressive fluid resuscitation to reconstitute intravascular volume and thereby maintain end-organ perfusion is crucial. According to the American Burn Association's practice guidelines, any patient with greater than 15 percent total body surface area (TBSA) non-superficial burns should receive formal fluid resuscitation.

Fluid selection: LR generally used. Colloids and hypertonic saline – controversial (not recommended as standard Rx). Goal – UO of 0.5 mL/kg/hour. If not at UO goal, bolus with 500-1000 mL and increase infusion rate by 20-30%. Stable patients: change to 5% D/W with 0.45% NSS to maintain UO of 0.5 mL/kg/hour.

PRBC's only if Hgb < 8 g/dL, or for ACS (need to go up to 10 g/dL). Erythropoietin rarely used in burn patients.

Estimating fluid requirement:

1. Parkland formula (AKA Baxter): 4 mL/kg body weight for each %TBSA burned – 50% in first 8 hours and rest in the following 16 hours (most widely used)
2. Modified Brooke formula: 2 mL/kg body weight for each %TBSA burned (less fluid, less risk of causing harm)

Monitoring of resuscitation:

1. UO > .05 mL/kg/hour
2. Heart rate, blood pressure, pulse pressure, distal pulses, capillary refill, and color and turgor of uninjured skin
3. Mixed venous blood gas and serum lactate - ▼SvO₂ and ▲lactate = inadequate end-organ perfusion. ▲lactate also with CO and CN poisoning
4. CVP – useful but not required