Large Burns ≥20% TBSA

Shock Trauma Suite

Initial assessment

- Remove burned clothing, rings, watches, and jewelry
- C-spine precautions (if history of blast injury or other significant trauma)
- **Consult Plastic Surgery** for assistance in burn management
- Estimate total body surface area (TBSA) with partial and full thickness burns using the Lund Browder burn diagram
- Check temperature and begin continuous temperature monitoring if indicated (see burn FAQ sheet)

Airway

- Initiate 100% Fi02 by non-rebreathing face mask with noninvasive EtCO2 monitor in place for all burns related to fire (can omit for scald and non-fire-related thermal burns)
- Manage airway if indicated (see box to right)
- Consider Cyanokit ONLY for patients undergoing CPR or unconscious (Dosing: 70mg/kg; Max: 5,000mg; Administration: IV over 15minutes)

Fluids

- Establish IV access (2 large bore IVs)
- Initiate LR (Lactated Ringers) Infusion (see box to right)
- Do not bolus (avoid "fluid creep")
- IVF can be adjusted once complete TBSA determined and/or discussion with Burn Surgeon
- Insert Foley catheter for urine output monitoring <20kg:1ml/kg/hr, >20 kg: 0.5ml/kg/hr, Adult: 30-50/hr

Pain

- IV Morphine 0.1 mg/kg/dose (max 5 mg/dose) or IV Fentanyl 1-2 mcg/kg/dose (max 50 mcg/dose) or Intranasal Fentanyl 2mcg/kg/dose (max 100mcg)
- Avoid IM administration due to erratic absorption

Transfer

- For patients <18y/o with ≥60% TBSA burns and/or intubated: call to speak to the BURN SURGEON at NATIONWIDE CHILDREN'S HOSPITAL at 614-355-0221
- For patients <18yo with 20% - 60% TBSA burns: call to speak to the CHARGE NURSE at SHRINERS CHILDREN'S OHIO (Dayton) at 513-872-6201
- For patients >18yo: call to speak to BURN SURGEON on call at UCMC at 513-584-2337
- Referrals from OSHs about burn patients should call Shriner's directly
- Key information to convey:
  - Mechanism of burn, including whether it occurred in a closed space, TBSA with partial/full thickness burns
  - Summary of interventions (fluid rate, Foley, airway interventions, pain management temperature)

Temperature Regulation

- Dress the burns with dry, sterile gauze or cover the patient with a dry sheet if the burns are extensive
- Keep the patient warm (blankets, turn up ambient room temperature, warmed IV fluids, head covering, Bair Hugger™)
- Consider admission to PICU while awaiting transfer to definitive care

Pitfalls to Avoid

- Overestimation of TBSA
- Over/under resuscitation with IV fluids
- Endotracheal intubation when not indicated
- Inadequate temp monitoring and hypothermia

Indications for emergent airway management in a burn patient

- Obtundation with absent airway reflexes (no cough/nogag)
- Hoarse voice or cry, stridor, drooling, difficulty speaking, respiratory distress, obvious swelling of theoropharynx
- Extensive (> 40%) TBSA burns
- At the recommendation of the Burn Surgeon due to young age or TBSA affected"

In the absence of the above findings, emergent intubation may not be indicated…

Flash facial burns, singed nasal/facial hair, and carbonaceous material (soot) in the naso/oropharynx are not absolute indications for emergent intubation if the patient is breathing comfortably.

Fluid administration recommendations

- Begin 2X maintenance of warm (LR) Lactated Ringers
- Add D5LR MIVF if pt <20kg

Labs

- I Stat
- Renal profile and CBC
- Noninvasive carbon monoxide measurement
- Venous co-oximetry (ie carboxyhemoglobin level)
- Lactic Acid (Stat)
- Cyanide level
- Urine or blood hCG (if post-menarchal)
- CXR, Type and Screen (if history of blast injury or other significant trauma)

Vital Sign Monitoring

Age in years	Acceptable HR	Minimum SBP	Minimum Mean BP
0-1	120-168	65	45
1-2	120-168	68	45
3-5	95-145	72	50
6-7	95-145	75	50
8-9	95-145	80	50
10+	72-120	80	55

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Revised 2/2024