# STS Care of Thermal Burns ≥ 20% Total Body Surface Area

Remove burned clothing, rings, watches, and jewelry Cervical 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 (see accompanying page)

Check temperature and begin continuous temperature monitoring if indicated (see burn FAQ sheet)

Initial Assessment

Airway

Pain

**Transfer** 

**Temp Regulation** 

#### ≥ 20% TBSA

Initiate 100% FiO<sub>2</sub> by non-rebreathing face mask with noninvasive EtCO<sub>2</sub> monitor in place for all burns related to fire (can omit for scald and non-fire-related thermal burns)

Manage airway if indicated (see b ox to right)

Consider Cyanokit ONLY for patients undergoing CPR or unconscious (Dosing: 70mg/kg; Max: 5,000mg; Administration: IV over 15 minutes)

Establish IV access (2 large bore IVs for burns ≥ 20% TBSA)
Initiate normal saline or Ringer's lactate infusion according to fluid administration recommendations (see box to right)

<u>Do not bolus (avoid "fluid creep")</u>

Insert **Foley catheter** for urine output monitoring <30kg:1ml/kg/hr, >30 kg: 0.5ml/kg/hr, Adult: 30-50/hr

Pain control with IV morphine 0.1 mg/kg/dose (max 10 mg/dose)
or IV fentanyl 1-2 mcg/kg/dose (max 200 mcg/dose)
Avoid IM administration due to erratic absorption

Call Nationwide Children's Hospital at 614-355-0221 (or 1-877-614-355-0221) 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)

**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/no gag)
- Hoarse voice or cry, stridor, drooling, difficulty speaking, respiratory distress, obvious swelling of the oropharynx
- Extensive (> 40%) TBSA burns

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 as long as the patient is breathing comfortably.

### Fluid administration recommendations

Use Ringer's lactate or Normal Saline

5 years or less: 125 mL/hr 6-13 years: 250 mL/hr 14 years or older: 500 mL/hr

### **Labs/Studies to Consider**

- 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 and Type and Screen (if history of blast injury or other significant trauma)

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