Burn Injury Definitions:

- **1st Degree** (*Superficial*)
  - Involves the epidermis
  - Red (e.g., sunburn)
  - Painful
  - Do NOT include when calculating % TBSA

- **2nd Degree** (*Partial Thickness*)
  - Involves entire epidermis and a viable portion of the dermis
  - Red, blistered, edematous
  - Painful

- **3rd Degree** (*Full Thickness*)
  - Involves the destruction of the entire epidermis and dermis
  - White, brown, dry, leathery with possible coagulated vessels

- **4th Degree** (*Full Thickness*)
  - Involves underlying fat, fascia, muscle and/or bone

For scattered burns, use patient’s own palmar surface (*palm and fingers*), which is roughly equal to 1% TBSA.
Burn Care Guidelines

1. **Stop the Burning Process**

2. **Airway Management**
   - Administer high flow oxygen/raise head as appropriate to decrease airway edema
   - If there is airway involvement, early oral intubation is preferable with the largest ETT possible

3. **Circulation**
   - Secure large bore IV cannula in adequate vein or establish IO *(required for patients with burns > 20%)*
   - IV/IO may be placed through burned skin if access is needed
   - Two large bore peripheral IV lines preferred for burns > 30%
   - Remove restrictive jewelry/clothing if possible
   - Lactated Ringers (LR) is the fluid of choice; 0.9% Normal Saline (NS) may be used if LR unavailable
   - Initial management *(adjust after TBSA calculated - see Step 5)*:
     - < 5 y/o: LR @ 125mL/hr
     - 6-13 y/o: LR @ 250mL/hr
     - > 14 y/o: LR @ 500mL/hr

4. **Physical Exam**
   - Check for associated injuries
   - Calculate % TBSA using Rule of Nines *(see other side)* and only include partial and full thickness injuries in calculation
   - Obtain glucose on pediatric patients
   - Utilize cardiac monitor for electrical burn patients

5. **Fluid Resuscitation** *(after TBSA calculated)*:
   - Deliver 1/2 over first 8 hours, and remaining 1/2 over next 16 hours
     - **Adults**: LR 2mL/kg/%TBSA
     - **Children (< 14 yrs or < 40kg)**: LR 3mL/kg/%TBSA
     - **Infants < 10kg**: Add D5LR at maintenance rate to IVF resuscitation *(if approved within EMS system protocols)*
     - **Electrical burns**: LR 4mL/kg/%TBSA

6. **Cover burns with dry dressings. Cover patient with blanket and warm EMS vehicle to prevent hypothermia**

7. **Administer pain medication per system protocol**

8. **Contact Medical Control and consider transport to hospital with burn capabilities**

---

**Illinois Hospitals with Burn Capabilities**

- John H. Stroger Jr. Hospital of Cook County, Chicago
- Loyola University Medical Center, Maywood *(State Burn Coordinating Center)*
- Memorial Medical Center, Springfield
- OSF St. Anthony Medical Center, Rockford
- University of Chicago Medical Center, Chicago

▲ = American Burn Association, Burn Center Verification
* = For some areas in Illinois, the closest hospital with burn capabilities may be in a border state.