

Emergency Burn Care

PRIMARY SURVEY

STOP THE BURNING PROCESS! Remove clothing/jewelry from affected area
Burns >10% TBSA should NOT be cooled - may induce hypothermia

AIRWAY

Is airway at risk?
Consider need for intubation if **any** present:

- Respiratory distress
- Stridor
- Altered mentation
- Hypoxia/hypercarbia
- Deep facial or neck burns
- Upper airway trauma
- Hemodynamic instability
- Burned in enclosed space

Consider need to restrict cervical spine motion

BREATHING

Assess adequacy of breathing and ventilation

Administer O₂ at 15 L/min via non-rebreather mask

Circumferential chest/neck burns may compromise airway/oxygenation

CIRCULATION

Assess HR, BP, temperature, colour

Insert 2 large bore IV catheters, burned areas are acceptable if needed

Insert IO or central line if no peripheral access

Lactated Ringer's (LR) warmed preferred

Elevate involved extremity above heart level

Monitor distal perfusion in circumferential burns

DISABILITY

Assess level of consciousness & pupillary response

Suspect other issues if altered mentation or level of consciousness

EXPOSURE & ENVIRONMENTAL CONTROL

Remove all clothing, shoes, diaper, jewelry, body piercings, and contact lenses

Monitor core temperature for all major burns: maintain normothermia

Actively rewarm major burns: warm IV fluids, warm blankets, Bair Hugger

Cover burn area with sterile or clean dry sheets. **No ointments or creams applied** (see special guidance for asphalt/tar)

Complete baseline trauma bloodwork, Carboxyhemoglobin

INITIAL FLUID RESUSCITATION PRE-HOSPITAL & EARLY EMERGENCY CARE

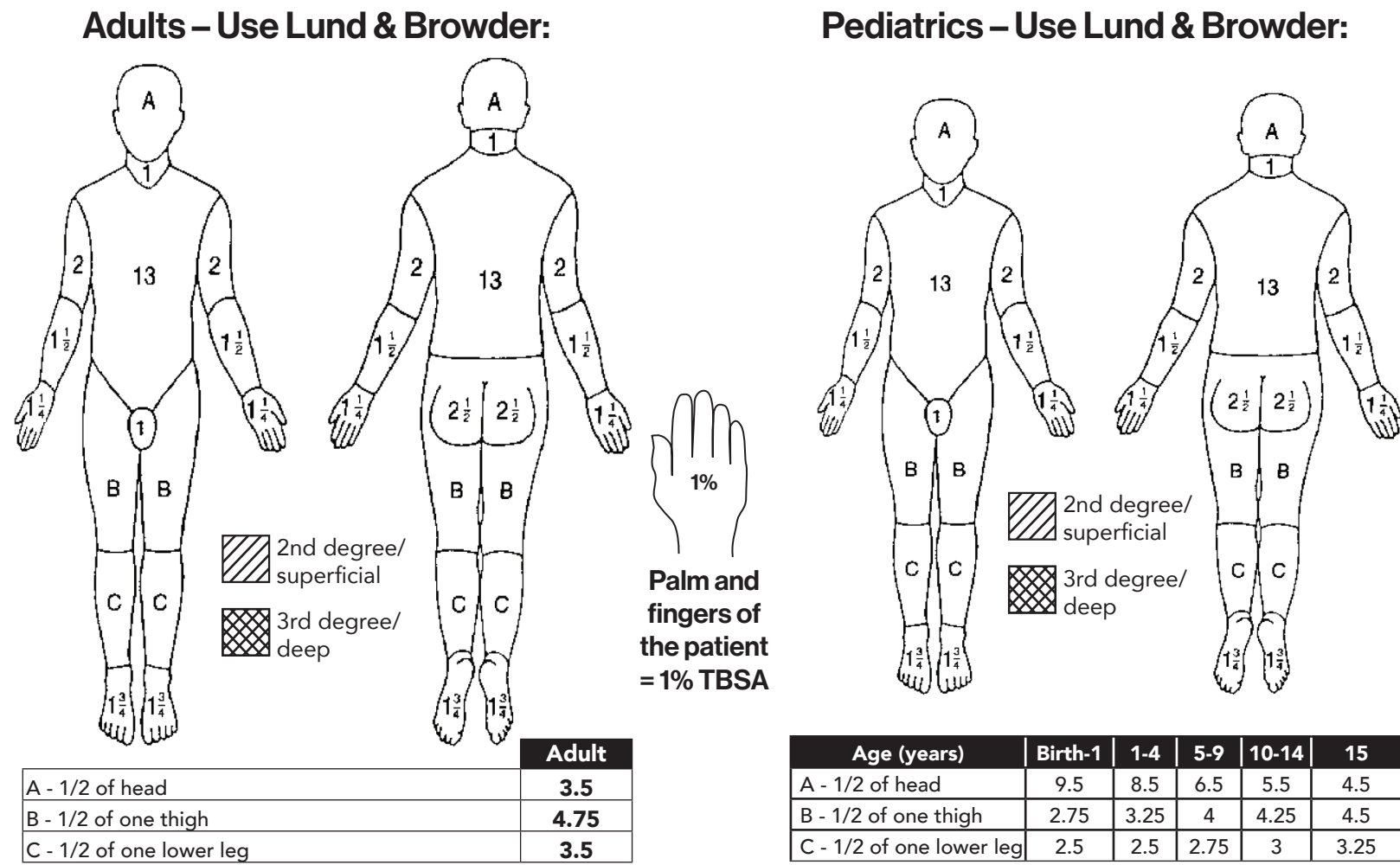
2nd & 3rd degree ADULTS ≥20% Total Body Surface Area (TBSA) and PEDIATRICS ≥15% TBSA

AGE	FLUID RATE
5 years of age	125 mL LR per hour
6-12 years old	250 mL LR per hour
≥13 years and older	500 mL LR per hour

SECONDARY SURVEY

CONFIRM WEIGHT IN KG AND CALCULATE TBSA BURNED

Only 2nd & 3rd degree burns are calculated



ADJUSTED FLUID RATE

Based on weight and TBSA burned

STEP A
TOTAL 24-HOUR FLUID AMOUNT

Adult:
2 mL LR × kg × % TBSA

Pediatric:
3 mL LR × kg × % TBSA

Electrical injury:
Adult & Pediatric
4 mL LR × kg × % TBSA

STEP B

INFUSION STARTING RATE
Total mL ÷ 16 = _____ mL/hr

HOURLY urine output & circulatory & respiratory monitoring is ESSENTIAL to guide and adjust fluid resuscitation rates effectively.

Insert foley catheter

Adjust infusion rate according to hourly urinary output & clinical response

UNIQUE BURN INJURIES

Electrical
Wounds/Burns: may appear minor but damage can extend deep into tissues
Consider voltage, duration of contact, LOC, concurrent injuries
Risk for cardiac arrhythmias:

- 12 Lead ECG
- 24 hour cardiac monitoring in high voltage or ectopy

Monitor for:

- Compartment syndrome
- Dark urine: Risk for rhabdomyolysis! Monitor CK & urine myoglobin

Follow increased fluid & urine output guidelines at left

Chemical
Don Personal Protective Equipment
Remove clothing, footwear and jewelry
Brush off all dry agents (dry brush, towel) from skin
Initiate continuous irrigation with copious amounts of warm water
Consult Poison Control Centre 1-902-470-8161 and Safety Data Sheets
Asphalt or Tar
Burn to tissues may be deep!
Irrigate with cool water until product completely cooled
After cooling: Emulsify tar with petrolatum based ointment: Vaseline or Polysporin
Do not peel tar - emulsification for tar removal may take several days

Cold Injuries
Remove damp clothing and apply warm blankets
Provide hot fluids by mouth if patient alert, able to drink and no contraindications to oral fluids
Affected areas are rewarmed by immersion in gently circulating water at a constant 38-40°C for 30-40 minutes

- Feet/legs: if patient able and accompanied - a shower stall with warm running water
- Do not rub or massage areas
- Excessive dry heat can cause a burn injury during rewarming
- Patient with frostbitten feet should not be walking whenever avoidable
- The extremity should be elevated **above heart level** once rewarmed

MILD INJURY	DEEP INJURY
Brief cold exposure, early rewarming	Prolonged exposure, delayed warming
Bright red or normal skin colour	Mottled or purple skin
Warm digits	Cool digits
Sensation present	No sensation
Clear blisters	Hemorrhagic blisters
Blisters to digit tips	Proximal blisters only

Call Trauma Line
1-877-872-6247

Call early for consult with Trauma Control Physician and specialists, including timely transfer when required.

CONSULTATION CRITERIA:

- 2nd degree burns ≥ 10% TBSA
- 3rd degree burns, any age group
- Inhalation injury
- Circumferential injuries
- Pediatric patient with any significant burn
- Burns to face, hands, feet, genitalia, perineum or major joints
- Electrical including lightning injury
- All chemical injuries that could complicate management or affect mortality
- Burns and concomitant trauma
- Poorly controlled pain

REMEMBER!

- ✓ Do not over or under-resuscitate
- ✓ Patients being transferred for definitive care should not have any ointments or creams applied
- ✓ Prevent hypothermia
- ✓ Monitor glucose levels in children ≤12 years
- ✓ Children ≤12 years require maintenance fluid D5LR
- ✓ Assess & manage pain
- ✓ Confirm tetanus status
- ✓ Psychological support for patient & family
- ✓ Does your team need debriefing?

BURN DEPTH CLASSIFICATION

