

Emergency Management of Burns

In order of least to most disastrous:

BOILING WATER Scalds are not very deep if you are only exposed for a fraction of a second.

HOWEVER 100 degrees for 1 second = full thickness burn (“3rd degree”)

HOT OIL Boils at 220 degrees (!!)

FLAMES Almost certainly full thickness

ACID Causes coagulative necrosis, which is self-limiting (an eschar forms, preventing spread of acid)

ALKALI Causes **LIQUEFACTIVE** necrosis, **which is SELF-PROPAGATING**

ASSESS THE BURN: HOW DEEP and HOW MUCH BODY AREA IS COVERED?

HOW DEEP?

Superficial = erythema, redness, sunburn.

Partial thickness = blisters, red moist skin.

Full thickness = pale, leathery, dry, insensate

RULE OF NINES:

Each body area is worth 9% of surface area, except

TORSO / BACK = 18%

GROIN = 1%

IS IT AN ACCIDENTAL BURN?

INTENTIONAL burns have a uniform depth, no splash marks, “porcelain contact sparing” (eg. child's buttocks are planted on porcelain bath tub, which is cooler than the surrounding water) flexor sparing, dorsal hand burns, and localised but very deep burns

RESUSCITATION:

1. !! AIRWAY !! airway burns are lethal

CAUSED COMMONLY BY ENCLOSED-SPACE FIRES AND EXPLOSIONS (hot air inhalation)

LOOK FOR THE SIGNS:

- Burnt face
- Singed nasal hairs
- Carbonaceous sputum
- Stridor getting worse
- Hoarseness rapidly developing
- Poor Oxygen saturation despite oxygen mask

airway burns = need prophylactic intubation

gotta get that tube into them before the inflamed airway closes up

2. Reduce on-going injury: eg. extinguish the patient, debride the alkaline wound

- **COOL THE AREA WITHIN 3 HOURS!** = Reduces pain, depth, fluid requirements
- Use a cold (15 degrees) saline pack
- Irrigate chemical burns

3. FLUIDS!! Cannulas in both arms :

better in the burnt upper limb than the non-burnt lower limb

2 to 4 ml per kg per percentage of body area burnt, over 24 hrs

4. STOP THE FLUIDS WHEN...

- ...the periphery is warm
- ...they are normotensive
- ...urine output climbs over 0.5-1ml per kg per hr
- ...base deficit is less than +2

5. ARE THE INJURIES CIRCUMFERENTIAL?

Expanding oedematous soft tissue will cause compartment syndrome in limbs armoured in charred eschar – thus must perform **escharotomy**, i.e. lengthwise slit

