## **BURNS PROTOCOL**

## **EVALUATION**

# Primary survey

Approached as multiple trauma patients

Secure airway – general indications for intubation

- signs of impending airway obstruction
- circumferential burns of neck
- facial burns
- oedema of pharynx, larynx, evidence of upper airway burns
- unconsciousness
- loss of airway reflexes
- carbon monoxide or cyanide poisoning
- signs of respiratory distress
- usually unnecessary for <25% burns

consider if 25-40% burns

intubate if >40% burns

note: avoid suxamethonium especially 24 hours after burns

need to look out for cervical injuries (depending on mechanism

of injury e.g. explosion, clinical signs and symptoms)

#### Vascular access

2 wide bore peripheral lines

central lines – use antibiotic coated lines if line access a great problem

arterial line

lines should preferably be inserted in unburned areas, must be well secured

# Secondary Survey

Important aspects

History – documentation of mechanism of injury (fire burns, electrical

burns, chemical burns, possibility of suicide and intoxication)

time of injury

close space injury

time of extrication, fluids given during transport

medical history

Examination - neurological

eyes, ENT

neck

cardiothoracic

abdomen

genitourinary and extremities

Assessment of burns area and depth Rule of nines ( for adults)

 Palmar surface of the patient's hand (without the fingers) is approximately 0.5% of the body surface over all age groups Lund-Browder chart

Depth	level of injury	clinical features
Superficial partial	papillary dermis	blisters, erythema
thickness		capillary refill
		intact pain sensation
Deep partial	reticular dermis	blisters, pale white or yellow
thickness		no capillary refill
		absent pain sensation
Full thickness	subcutaneous tissue,	leathery, inelastic
	fascia, muscle, bone	no capillary refill
		absent pain sensation

Investigations-baseline CBP, clotting, RFT, LFT, ABG

Toxicology screen

Carboxyhaemoglobin ] as indicated

CPK, urine myoglobin ]

Radiological investigations as indicated

#### MANAGEMENT

# Airway and Breathing

intubation - indications as stated

ventilation – refer to acute lung injury/ARDS protocol if complications arise

Extubation – can be considered 48-72 hours after injury

patient awake and able to protect airway

airway patency – resolved upper airway oedema

direct laryngoscopy/ cuff leak test/able to breath around

the tube when balloon is down

no ventilatory problems and acceptable gaseous exchange

## Fluid Management

Many formula available to guide fluid resuscitation. PWH uses the Parkland formula

## Parkland Formula

- Hartman solution 4 ml/kg/% total body surface area burned in first 24 hours ( give half of fluid requirement in 8 hours and other half in 16 hours)
- Avoid colloid first 24 hours after injury

 Decrease Hartman solution to 2ml/kg/% total body surface area burned next 24 hours. If use colloid – 0.5 ml/kg/% burns

# Endpoints of resuscitation

- blood pressure
- pulse
- urine output adult 0.5ml/kg
  children 1.0ml/kg
- base excess
- haematocrit
- central line, PA catheter readings

#### Persistent shock

- consider other types of shock
- consider element of left ventricular dysfunction

## Watch out for complications of fluid overload

- Airway oedema
- pulmonary oedema
- abdominal compartment syndrome
- cerebral oedema
- compartment syndrome of extremities

# Specific Burns Management

Refer to burns team (burns dressing, debridement, escharotomy) Silver suphadiazine is a topical antibacterial used routinely during burns wound dressings in our unit. Side effects include hypersensitivity, leukopaenia, methemoglobinaemia, high osmolality

#### Sepsis

Refer to antibiotic protocol (routine antibiotic prophylaxis is not given in our unit)

## Other General Management

- tetanus toxoid (generally given in A & E please check)
- analgesia morphine infusion initially. When condition stabilize, choices include IV PCA morphine, oral MST, syrup morphine, methadone
- stress ulcer prophylaxis, DVT prophylaxis
- Nutrition (protein intake up to 1g/kg +2g/%burn calorie intake 30cal/kg- 35cal/kg)
- pressure sores and contractures