

Initial Management of Severe Burns

For burn injuries in adults >20% TBSA and children >10% TBSA or who meet the ANZBA transfer criteria, consider early consultation with retrieval service and burn centre

Specific points to note in the primary survey with respect to burn injury:

PRIMARY SURVEY

AIRWAY



Assess for history of burn in enclosed space, signs of upper airway oedema, sooty sputum, facial burns, respiratory distress (dyspnoea, stridor, wheeze, hoarse voice).
If any of the above present, airway is at risk. Consider need for intubation and secure airway as required. Maintain spinal precautions as required especially with explosion or electrical burns.

BREATHING



Assess breathing and support as required.
Assess adequacy of breathing where circumferential burns on chest wall -consider escharotomy. Administer humidified 100%FiO₂.
Establish baseline ABGs and SaO₂ (goal: >95%).

CIRCULATION



Assess circulation: colour, refill, HR, BP.
Insert 2 large bore peripheral IV lines. If unable consider central or intraosseous access.

Specific points to note in the secondary survey and initial management of burn injury:

FLUID RESUSCITATION

Guide fluid resuscitation with Parkland formula/Ambulance protocol
Insert urinary catheter. Titrate fluid resuscitation to urine output goals:
Adults: 0.5- 1.0 ml/kg/hr (30-50 mls/hr)
Paediatrics <30kgs: 1ml/kg/hr
Maintain accurate fluid balance chart

ANALGESIA

Assess pain score to determine analgesic requirements
Adults: 2-5mg Morphine IV repeat every 5 minute
Paediatrics: IV Morphine 0.1mg/kg repeat every 5 minutes. Maximum 0.3mg/kg
Re-assess pain score (goal: Adult VAS pain score <4) and adjust analgesia accordingly.
Consider Morphine Infusion for ongoing pain relief

MANAGING WOUND

Assess extent of burn using Rule of Nines
Clean then cover the wound (see below)

CIRCUMFERENTIAL BURNS

Elevate limbs where circumferential burns present.
Assess perfusion distal to burn: capillary refill, pulse, warmth, colour.
Liaise with burn service if escharotomy required (cool to touch, weak or no pulse distally).

OTHER

Cover the patient to prevent heat loss.
Insert nasogastric tube for burns >20% TBSA adults and 10%TBSA paediatrics. Keep nil orally.
Administer tetanus immunoglobulin if required.
Investigative tests as indicated.

Wound care for transit

First aid: cool running H₂O ->20 mins
Clean the wound: Normal saline or 0.1% Chlorhexidine
Remove small loose dermis or blisters
Assess: Extent and depth of burn injury and for circumferential injury
Cover: Cling wrap longitudinally if immediate transfer (>8hrs) Paraffin gauze or silver dressing if T/F delayed

Fluid resuscitation

Parkland formula:
3-4mls IV fluid X %TBSA X kg/24hrs
½ fluid in 8/24 post injury
½ fluid in 16/24 post injury
Hartmann's solution
Paediatric maintenance fluids:
5% Dextrose in ½ Normal Saline
Up to 10kgs: 100mls/kg/day
10-20kgs: 1000mls + 50mls/kg>10kgs/day
20-30kgs: 1500mls +20mls/kg >20kgs/day

Transfer checklist

- ✓ Airway secure
- ✓ O₂ insitu
- ✓ IV access established & secure
- ✓ Fluid resuscitation commenced
- ✓ Urinary catheter inserted & secure
- ✓ Pain controlled
- ✓ Wounds are covered & Patient is warm
- ✓ Elevate burnt area as appropriate
- ✓ Tetoxid if indicated
- ✓ Nasogastric insitu as necessary
- ✓ Retrieval Services aware
- ✓ N.O.K. aware
- ✓ History & relevant documentation copied