Initial Management of Severe Burns

Burn injuries >20%TBSA (adults) & >10%TBSA (paediatrics) considered major trauma.

Initiate early consultation (<60mins) with ARV for timely transfer

CONTACT DETAILS

Ambulance Victoria
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Adult Retrieval Victoria
1300 36 86 61

Royal Children's Hospital
PIPER
1300 13 76 50

Alfred Hospital
03 9076 2000

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

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 and 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

For burns >20%TBSA in adults and burns >10%TBSA in paediatrics.
Use Parklands formula/ Ambulance Victoria CPG (below) to estimate initial fluid resuscitation requirements.
Insert urinary catheter and titrate fluid resuscitation to urine output.
Urine output goals:
Adults: **0.5 – 1ml/kg/hr (30 – 50 mls/hour)**
Paediatrics <30kgs: **1ml/kg/hr**
Maintain accurate fluid balance chart.

PAIN MANAGEMENT

Assess pain score to determine analgesic requirements.
Adults: 2 – 5 mg Morphine repeated every 5 minutes.
Paediatrics: 0.1mg/kg Morphine repeated 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 THE WOUND

Assess extent of burn using Rule of Nines or Lund & Browder chart.
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 minimise 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 for 20 mins

Clean:
- Normal Saline/0.1% Chlorhexidine.
- If transfer delayed consider debridement of loose dermis and blisters >2.5cms. Additional analgesia required.

Assess:
- Depth of burn
- Extent of burn (%TBSA)
- Circumferential injury

Cover:
<6 hours: Cling wrap longitudinally
>6hours: paraffin gauze/ silver dressing

Fluid Resuscitation

%TBSA Burns: >20% (adults) & >10% (paediatrics)

Modified Parkland formula:
3-4mls X %TBSA X Kgs/24hours
½ fluid in first 8 hours post injury.
½ fluid in next 16 hours post injury.
Use Crystalloid: Hartmanns/Normal Saline.

Ambulance Victoria
%TBSA burn X Weight (Kgs)= IV fluid 2/24

Paediatric Maintenance Fluids:
- Up to 10kgs: 100mls/kg/day.
- 10 – 20kgs: 1000mls + 50mls/kg/day.
- 20 – 30kgs: 1500+20mls/kg/day.

Use: 5% Dextrose & ½ Normal Saline.

Transfer Checklist

- ☑ Airway secure
- ☑ O2 insitu
- ☑ IV access established & secure
- ☑ Fluid resuscitation commenced
- ☑ Urinary catheter inserted and secure
- ☑ Pain controlled
- ☑ Wounds are covered
- ☑ Measures implemented to prevent heat loss
- ☑ Elevate burnt area as appropriate
- ☑ Tetanus immunoglobulin as required
- ☑ Nasogastric insitu
- ☑ ARV & MTS aware
- ☑ NOK aware
- ☑ History and documentation copied