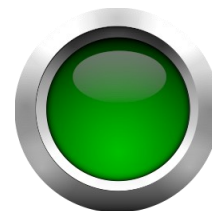


Thermal Burns SOP

Further reading

<https://theresusroom.co.uk/burns/>
 FPHC consensus 2019
<https://www.nice.org.uk/advice/mib58>
<https://merseyburns.com/>



Related SOPs

Prehospital emergency anaesthesia SOP	Front of neck access SOP
Circulatory access SOP	Fluid therapy SOP
	Chemical burns SOP

Remember:

1. Scene safety

Be aware of ongoing hazards such as fire, smoke and fumes, explosion risk, structural collapse, live electrical wiring, chemicals.

Adopt a multidisciplinary approach including Fire & Rescue Service and HART.

2. Consider mechanism of injury

- Explosive forces
- Structural collapse
- Has the patient jumped from a height?

Maintain a high index of suspicion for polytrauma, blast-related injuries, pneumothoraces, air embolism, inhalational injury and carbon monoxide or cyanide poisoning.

3. <C>ABC approach

Thermal Burns SOP

Airway and Breathing

Where there is suspicion of airway burns or inhalational injury, **high-flow oxygen** is recommended irrespective of initial SpO₂ reading.

Impending airway compromise as a direct result of airway burns will only be adequately treated through the placement of a cuffed tube in the trachea. Clinical features suggesting the need for prophylactic intubation include full thickness facial burns, stridor, respiratory distress and supraglottic swelling. Note that facial flash burns with singed hairs but no intra-oral component (eg. from fuel on a barbecue), can usually be managed without intubation.

PHEA may be required in cases of smoke inhalation or blast lung to maximise oxygenation. Higher PEEP levels (10-15mbar) on the ventilator will assist with gas exchange. According to a [Cochrane review](#) and a more recent [NHS commissioning paper](#), there is currently no role for hyperbaric therapy in cases of suspected carbon monoxide poisoning.

Patients with significant burns undergoing PHEA will often require **higher doses of sedation and analgesia** unless there is associated hypovolaemia from polytrauma. Aim to intubate with the largest bore endotracheal tube that will fit, which will help with subsequent bronchoscopy in hospital. Do not cut endotracheal tubes. Securing the tube with tape may be difficult if there are significant facial burns. Ties can be used instead, but regularly reassess the tension as the swelling increases to prevent the tie from cutting into the skin. Those familiar with the technique may consider the nasal route for intubation.

Anticipate a difficult airway. **The possible need for front of neck access should be discussed within the team** during the preparation stage. Consider marking the cricothyroid membrane in advance for shared situational awareness. Refer to the front of neck access SOP for further details.



Thermal Burns SOP

Circulation

Vascular access will often be difficult in patients with significant burns. Alternative sites for cannulation such as the ankles, feet or external jugular should be considered. Intraosseous access should be used where necessary, and in extremis this may need to be through burned skin. Dual IOs may be required if significant fluid resuscitation is indicated.

Unless blood products are required because of associated hypovolaemic polytrauma, fluid resuscitation should be with 0.9% NaCl in all patients with burns >20% TBSA. Complex formulae are unhelpful in the prehospital environment, and the latest FPHC guidance suggest rates between 500-1000mls/hour depending on patient size and burn area. Consider using our fluid warming devices if >1000mls is likely to be delivered prior to arrival at hospital. The Mersey Burns app is a useful resource and can assist with estimates of fluid requirements.

General measures

Stop the burning process and cool with clean running water where possible

Analgesia - Opioids or ketamine. Consider intra-nasal route.

Prevent hypothermia

Assess burn area (do not include erythema) and depth

Cling film dressing - avoid circumferential wrapping

Consider NAI and safeguarding in all cases involving children/vulnerable adults

Consider escharotomies - see below

Where TBSA >20% in adults, or >10% in children, or involving face/palms/genitalia:

- Within the Northern Trauma Network should ideally be transported to the RVI
- Outwith this area, transport significant burns to the nearest MTC.



Thermal Burns SOP

Escharotomy

Indications for performing pre-hospital chest escharotomy (including the neck, as required) should be only in cases of circumferential or near circumferential eschar and impending or established respiratory compromise, due to thoraco-abdominal burns. Escharotomy should be performed following mid-axial lines through burnt skin only. Escharotomy may cause significant external haemorrhage, wounds should therefore have direct pressure applied for haemostasis and necessary volume resuscitation with blood products

Pre-hospital limb escharotomy is not recommended in standard prehospital practice, given the relatively short transfer times to hospital, especially as performing such procedures carry a significant risk of complications. It may be considered in prolonged field care scenarios.

