Ashford and St. Peter's Hospitals NHS
NHS Trust

WOMEN'S HEALTH AND PAEDIATRICS
PAEDIATRIC DEPT

Burns and Scalds

Amendments			
Date	Page(s)	Comments	Approved by
April 2016	New Guideline		
March 2018		Whole document review	Paediatric Guideline Group

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In Consultation with:

Ratified by: Paediatric Guidelines Group

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Next Review Date: March 2025

Target Audience: Doctors, nurses and support staff working in Paediatrics

Impact Assessment Carried Out By:

Comment on this

Document to: Dr Erin Dawson, Associate Specialist Paediatric Emergency Medicine

Always consider non-accidental injury if delay in presentation, history inconsistent with examination or with the child's developmental level.

Primary survey and resuscitation

Airway and cervical spine

- Airway compromise either due to inhalational injury (Hx of exposure to smoke in a confined space, deposits round mouth or nose or carbonaceous sputum) and oral scalds or severe burns to the face.
- NB airway can deteriorate rapidly, important to secure as early as possible.
- Any suspicion of cervical spine injury or if hx unobtainable, C spine is immobilised until injury ruled out.

Breathing (All children should have high flow oxygen)

- Abnormal rate, chest movement, cyanosis (late sign).
- Circumferential burns to chest or abdomen may mechanically restrict chest movement.
- Intubation and ventilation should be commenced if there are signs of breathing problems.

Circulation

- Shock in the first few hours rarely due to burns, other sources should be actively sought.
- IV/IO access x 2 on unburnt skin if possible.
- FBC U&E Glucose and cross matching before commencing resuscitation.

Disability

Reduced conscious level may be due to hypoxia, hypovolaemia or head injury.

Exposure

Exposure should be complete, but burned children lose heat rapidly so should be kept warm and covered up when not being examined.

Other injuries include effects of blast, being hit by falling objects or falling trying to escape from fire. Injuries should be treated according to priority.

First Aid

Cool with running tap water for 20 minutes within 3 hours of injury

If limited water supply, apply a cool water compress, change frequently over 20 minute period

Irrigate chemical from skin/eyes immediately with warm running water for at least 15 mins

Do not use ice/iced water/ice packs

Assessing the Burn

- Severity depends on relative surface area and depth. Burns to particular areas require special attention.
- Surface area is estimated using paediatric burns chart.
- If not available the area of the child's palm and adducted fingers is approximately 1% of body surface.

NB Erythema is not included in the assessment of percentage of surface area.

Depth

Superficial- Involves epidermis only. Skin is painful, red, dry and intact, with brisk capillary refill and no blisters.

Superficial Partial Thickness-Skin is painful, pale pink or red, with exudate or collapsed blisters, and brisk capillary refill.

Deep dermal-Skin is dark pink/red or white, mottled, with variable sensation and delayed or absent capillary refill

Full thickness – Skin is white, black, brown, or yellow. It can be dry and leathery with thrombosed vessels visible. Eschar may be present. No capillary refill and no sensation

Special areas

- Face and mouth - airway problems.
- Hands and feet - severe functional loss.
- Perineum - risk of infection.
- Circumferential (full or partial thickness burns) to limbs or neck-ischaemia, require urgent incision.
- Circumferential burns to torso may restrict breathing.

THE BURNED OR SCALDED CHILD

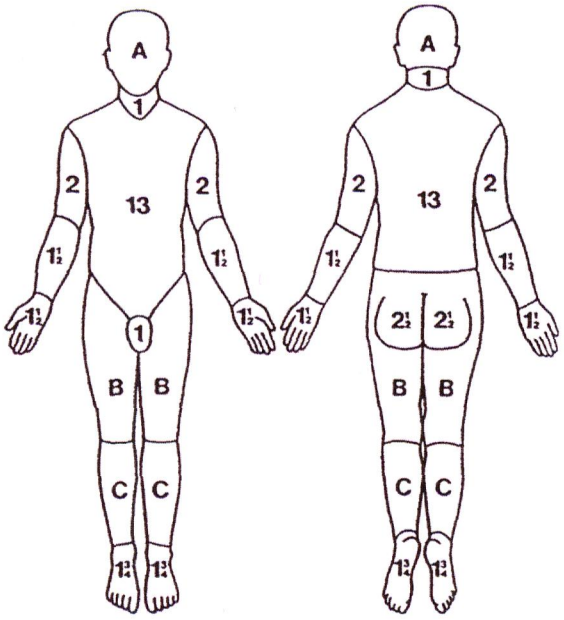

Figure 18.1. Body surface area (percent). (Reproduced courtesy of Smith & Nephew Pharmaceuticals Ltd)

Area indicated	Surface area at				
	0 year	1 year	5 years	10 years	15 years
A	9·5	8·5	6·5	5·5	4·5
B	2·75	3·25	4·0	4·5	4·5
C	2·5	2·5	2·75	3·0	3·25

Management

Provide appropriate analgesia- Entonox, I/N diamorphine, IV Morphine, Paracetamol, Ibuprofen

Check Tetanus immunisation status

Remove any non-adherent clothing and jewellery

Clean wound with tap water or Normal Saline

Remove all loose and non viable tissue and debris

Refer to Blister Management Guideline

Routine antibiotic prophylaxis **not** required

Dressings

Superficial burns-Moisturiser or light dressing only, analgesia,and advise to return to ED if blisters develop.

Partial thickness burns- Cover with non-adherent, atraumatic dressing. Manage excess exudate in the first 72 hours with absorbent dressing. Advise analgesia, elevation ant rest and mobility exercises. Review in ED.

Deep dermal and full thickness burns-discuss with Burns Unit.

Parents must be advised to seek urgent medical attention if their child becomes unwell with a fever, as toxic shock syndrome can develop even with very small burns.

Fluid therapy

- 20ml/kg Normal saline bolus for shock as required.
- Burns of 10% or more require additional fluid as well as their normal fluid requirement.
- Additional fluid is calculated according to the Parkland formula:
  - Percentage burn x weight (kg) x 4 / 24 hrs

For first 8 hours: 0.25 mls x % Burn x weight (kg) = mls/hour Hartmann's solution

Next 16 hours: 0.125 mls x% Burn x weight (kg) = mls/hour Hartmann's solution

Criteria for transfer to a burns unit

- 1% Total Body Surface Area (TBSA) Partial thickness (PT) burn
- All deep dermal and full thickness (FT), circumferential burns and burns involving the face, hands, soles of feet or perineum
- All burns associated with smoke inhalation, electrical shock or trauma
- Severe metabolic disturbance
- Children with burn wound infection
- All children 'unwell' with a burn
- Unhealed burns after 2 weeks
- Neonatal burns of any size
- All children with burns and child protection concerns
- Progressive non burn skin loss condition (TENS, SSSS)
- Any other case that causes concern

Definitive Care requires transfer to a paediatric burns facility –please use the London and the South East of England Burns Network Burns Transfer Information Form available on the intranet.

- LSEBN Cover Letter
- LSEBN Referral Guidelines
- LSEBN Transfer

If in doubt discuss with burns unit.

Ref: LSEBN

Ref: APLS 6th Edition