Section 8: Burns

Burns occur secondary to exposure to a heat source, resulting in damage to some or all of the layers of cells which form the skin. Damage to the skin from ultraviolet radiation, radioactivity, chemicals and electricity is also considered a burn injury, as is respiratory difficulty following smoke inhalation.

Туре	Indicator/descriptor	Management aims	Treatment
Superficial	Wet, pink, blisters Painful Cause: Scalds, Flash Burns, Sunburn	 To protect from infection To treat any minor infection To absorb and manage exudate To encourage rapid healing (<2 weeks) 	Follow first aid and consider referral <u>Silicone wound contact layer</u> <u>Secondary dressings</u> Gauze, wool and crepe bandages
Superficial dermal	Patchy pink/yellow Less wet and blistered Painful Cause: Scalds, Flash Burns	 To protect from infection To treat potential minor infection To absorb and manage exudate To encourage rapid healing (<3 weeks) 	Follow first aid and refer to Burns Service
Deep dermal	Dry,mottled pink/yellow/white Fixed staining due to capillary thrombosis Less painful Cause: Scald, Flame, Chemicals	 To protect from infection To treat any minor infection Prevent converting to a deeper wound To absorb and manage exudate To encourage rapid healing or prepare for grafting 	Follow first aid and refer to Burns Service
Full thickness	Dry, white or charred Waxy/leathery Painless Cause: Flame, Chemical, Electrical	 To protect the area from infection To manage exudate To maintain a healthy bed for subsequent grafting 	Follow first aid and refer to Burns Service

Other considerations

First Aid

- Stop the burning process
- Remove from source of injury
- Remove affected clothing
- Cool burn wound, ideally in cold running water, for up to 20 minutes, ice-cold water/cold compresses should be avoided
- Dress with cling film or sterile towels. Avoid wet or constrictive dressing

Referral to Burns Service

Any burn of greater than 10% body surface area (BSA) in adults, or 5% BSA in children should be referred to the burn service. Other criteria for referral include extremes of age, specials sites e.g. face, hands, feet, perineum, flexures. Burn mechanisms involving radiation, high pressure stream, high tension electrical, chemical >5% BSA or Hydrofluoric acid >1%, or suspicion of non-accidental injury in children or adults. Referrals can be made to the Registrar on-call for Plastic Surgery via Ninewells switchboard: 01382 660111.

Control of pain is very important for patients with burns, see Section 2. For more severe burns, respiratory aspects should be considered first.

Burns are very susceptible to infection and infection prevention is critical to good burn management.

All burns should be observed closely until the depth of the burn has become evident. Grafting may then take place. this may be up to three weeks post-burn.

Silicone wound contact layer: Should be left in place for at least 5 days, changing the secondary dressing as necessary. Wound can be monitored through dressing.

<u>Flamazine:</u> An effective antibacterial cream for burns expected to heal within 2-3 weeks alters the appearance of the burn, so **should not** be applied if any doubts regarding burn depth - in this case, refer to Burn Service. Useful for dressing of hand burns in bag/glove. Hand bags should not be used in children, due to suffocation risk. Available on prescription from pharmacy.

Burns Specialist Dressings

The following dressings can be used on the direction of a specialist in secondary care e.g. Plastic Surgeon, Plastic Surgery Specialist Nurse. Practitioners wishing to use these dressing outwith specialist advice should complete a <u>Non-formulary Dressing Reporting Form</u>

Paraffin Gauze: Dressing must be changed daily to prevent adherence

Telfa Clear: This dressing is useful on difficult to bandage areas e.g. back, buttocks. Use on burns with less exudate i.e. mid-dermal or deep dermal. Secure with tape.

Urgotul SSD: This silver dressing is particularly effective in the paediatric setting. It is used to treat infection but should be reserved for use under the direction of the Burns service.

Biobrane: This dressing is useful in superficial burns, particularly in children with burns >3% BSA. It should be applied ideally in theatre under anaesthesia. Betadine-soaked gauze or Urgotul SSD should be used as a dressing on top of the Biobrane. Biobrane is inspected at 24-48 hours, and usually removed within 2 weeks. It is reserved for Burn service use only.

Flammacerium: This medicine is available from pharmacy on a named-patient basis, and must be used following the direction of a Consultant Plastic Surgeon. It is useful to treat infection in patients with deep burns who are not eligible for early surgical intervention. It may have a role in the management of difficult anatomical areas.

References

1 Adult Burns Wound Formulary, Care of Burns in Scotland: Managed Clinical Network, available at: <u>www.cobis.scot.nhs.uk</u>

2 Burn Dressing Guidelines Paediatric, Care of Burns in Scotland: Managed Clinical Network, December 2011, available at: <u>www.cobis.scot.nhs.uk</u> 2 Bre bespital Approach to Burns Patient Management, August 2002, Available at www.britishburnassociation.org

3 Pre-hospital Approach to Burns Patient Management, August 2002. Available at www.britishburnassociation.org