BURN INJURY: ED MANAGEMENT - SCH

PRACTICE GUIDELINE ©

DOCUMENT SUMMARY/KEY POINTS

This document should be used in conjunction with the following documents:

- Burns Management
- Emergency Burns Care: Admission and Patient Transfer to CHW

- Burn injury is managed under the direction of the General Surgical Service at SCH
- Non-complex burn injury is managed locally by a multidisciplinary medical, nursing and allied health team, in most instances, as an outpatient
- Complex burn injury patients must be reviewed by the General Surgical Registrar prior to consultation, referral or transfer to the Statewide Paediatric Burn Service at CHW.
- First principles of resuscitation and stabilisation take precedence
- First aid measures including analgesia and cooling within three hours of injury should be instituted as early as feasible
- Blister drainage and debridement of minor burns, under appropriate analgesia, should be done at the ED presentation whenever possible

CHANGE SUMMARY

- Document due for mandatory review.
- Replaces SCH document C.9.01 ***Treatment of Burn Injuries***
- Clarification of responsibilities and processes around management of burn injured children at SCH and transfer to CHW

READ ACKNOWLEDGEMENT

- Relevant staff in the SCH Emergency Department should read & acknowledge they understand the contents of this document.

Approved by:	SCHN Policy Procedure and Guideline Committee	
Date Effective:	1st June 2019	**Review Period**: 3 years
Team Leader:	Nurse Practitioner	**Area/Dept**: Emergency Department SCH

Burn Injury, initial management in the Emergency Department

Burn injury is a common presentation to the Emergency Department. Severity of a burn is determined by area, depth and location of the injury. Treatment and referral will be influenced by a number of factors including mechanism, age of the child and social considerations. First aid and initial management of the burn site can limit tissue damage and subsequent mortality.

Purpose and Scope

The purpose of this guideline is to ensure that Emergency clinicians at SCH are informed about timely local processes for consultation, admission, referral and treatment modalities for burn injured patients at SCH.

This document references to relevant sections within "Burns Management"

The linked document provides specific and detailed information on burn wound assessment, burn surface area calculation, descriptors for assessment of depth, fluid management, wound management, types of dressings and application techniques.

Inclusion Criteria

All children presenting with burn injury, including friction burns.

Oesophageal and eye burn injury is excluded

For pathways on clinical assessment and initial treatment of a burn injury, refer to:
CHW Burns assessment and initial management form

General trauma management principles take precedence in managing a complex (major) burn injury or a burn associated with other major injuries: primary, secondary survey and simultaneous resuscitation should be followed (EMSB[1], APLS[2], Herndon[3], International guideline [5]) See:

- Section 3 (General management) Burns Management).
- Trauma Call Criteria - SCH

Immediate first aid measures should be instituted for all burn injury:-

- Stop the burning process: remove clothing from burned areas unless adherent to the skin (Leave in place and seek surgical review).
- Cool the burn wound: Running water is most effective. Use cold tap water to spray (using a dedicated container), pour, irrigate, soak or continuously sponge the burn for a minimum of 20 minutes within 3 hours of the injury.. Do not apply ice or ice water. Localise cooling efforts to the affected areas and keep the child warm. The cooling period may be extended or the wound covered or wrapped with a non-adherent dressing (cling film) to provide an analgesic effect until specialist review or definitive treatment is commenced.
- Analgesia

Definition and Context of Care

(See: Section 2 (Assessment of the Burn Wound) Burns management)

Children's Hospital Westmead is the designated paediatric burn centre for NSW for children who meet transfer criteria. [4]

Sydney Children's Hospital has tertiary level surgical services, allied health support and a Child Protection Unit with capacity to manage some complex issues. As such, any child who meets the transfer/referral criteria listed should be discussed with the General Surgical Registrar prior to contact with CHW. In principle, children should be managed as close to home whenever appropriate.

Complex or Major burn injury

Complex or Major burn injury in children that meet transfer guidelines include any thermal burn injury:-

- covering greater than 10% total body surface area (TBSA)
- 5% TBSA in children younger than 1 year
- 5% full thickness
- injury of significant extent or depth affecting a critical area including face/neck, hands, feet, genitalia, major joints
- respiratory involvement
- circumferential, limbs, digits, torso
- significant electrical or chemical
- suspected non accidental injury (in consultation with the SCH Child Protection Unit where the burn is non-complex/minor)

Children fulfilling these criteria must be initially reviewed by the ED Senior Medical Officer and/or by the General Surgical Registrar at SCH. Consultation, referral or transfer to the Paediatric Statewide Burn Service at CHW must be arranged through the Surgical or Plastics Registrar on call for BURNS at CHW via switch. Transfer is organised by SCH and may include involvement of NETS and CHW PICU. Refer to policy "Emergency Burn Care: admission and patient transfer to CHW"

The above CHW document contains an appendix with the Kidsburns ***consent form*** for transmission of digital images of burn injuries

Stabilised children should not be transferred with wet dressings. Wounds should be lightly covered, not circumferentially wrapped, with cling film OR Bactigras ™ at the direction of the CHW Burn or Plastics Registrar. Definitive debridement and dressings for complex burns are not applied at SCH as assessment will be required at CHW upon specialist review.

Affected limbs should be elevated.

Non-complex or Minor burns

Non-complex or Minor burns include any partial thickness thermal injury:-

- covering less than 10% TBSA
- no full thickness skin loss
- no inhalation or respiratory involvement

- not electrical or chemical
- no adverse social issues precluding outpatient management
- suspected non accidental injury (in consultation with the SCH Child Protection Unit)

Children fulfilling these criteria should be managed locally, as an outpatient in most circumstances. There may occasionally be specific indications for local admission such as analgesia management or social issues. These cases will be under the direction of the General Surgical Registrar.

ED assessment and treatment of non-complex injuries should be guided by senior Emergency clinicians or by the General Surgical Registrar where indicated. Referral to the Plastics service is NOT recommended in the first instance but may be sought by the General Surgical Team: this includes minor or non-complex burns to special areas such as finger pulps and pads of hands or feet and small, superficial splash injury to areas of the face or neck. Children fitting these criteria should not be referred to the CHW Burn Treatment Centre (BPTC) for outpatient management unless directed by the Surgical Registrar. In such circumstances dressing management will be as recommended by the General Surgical Registrar and appointment facilitated.

Non-complex burns at SCH should be referred to the weekly burn clinic managed by the General Surgery team in outpatients. If earlier or more frequent reviews are indicated, additional appointments can be arranged via the General Surgical Registrar at an Outpatient surgical or dressing clinic or through the Medical Day Unit. The surgical CNC may also provide advice.

Minor Burn Wound Management

Consistent with CHW recommendations, (See: Burns Management) burn blisters should be drained and devitalised skin trimmed whenever possible. This enables visualisation and assessment of the wound base and allows the direct application of a dressing to the base of the wound. Whenever feasible, blister drainage and de-roofing of minor burns should be attended at the initial acute presentation: the ED has the resources to safely support the use of narcotic analgesia and sedation adjuncts. Definitive burn dressing application in ED also enables application of a suitable occlusive dressing that can remain in situ until clinic follow up.

The ED stocks a limited range of silver impregnated and silicon based dressing products that are indicated for dressings for up to 7 days wear time. Dressing choice may be influenced by the wear time until planned follow up, the area to be dressed and the depth of burn. (Refer to Sections 6 and 7 in Burns Management guideline). Coban™ tape should not be used as a retention dressing under any circumstances due to the risk of secondary ischaemic compression injury.

Parents should be supplied with a written Burns Dressing Information fact sheet and home management discussed. Some degree of discomfort is anticipated at dressing change. Parents should therefore be advised to administer oral analgesia prior to clinic attendance and to fast their child for 2 hours prior to their clinic appointment in the event that nitrous oxide inhalation is required.

Discharge

All parents and carers must be advised to return the child to ED for review at any time if there are concerns such as pain, fever, discharge/odour or a contaminated or dislodged dressing.

Clinicians should avoid prediction of healing time and assurances that scarring will not occur during the Emergency presentation. Burns are dynamic and healing is variable among individuals. Longer term issues of concern regarding scar management will be addressed by the burn physiotherapist in consultation with the General Surgeon in the post-acute phase of healing.

Related Documents

- Burns Management http://webapps.schn.health.nsw.gov.au/epolicy/policy/4516
- Emergency Burn Care: admission and patient transfer to CHW http://webapps.schn.health.nsw.gov.au/epolicy/policy/4280
- Trauma Call Criteria – ED SCH http://webapps.schn.health.nsw.gov.au/epolicy/policy/3505
- CHW Burns assessment and initial management form http://chw.schn.health.nsw.gov.au/o/forms/burns_unit/burns_assessment_and_inital_management.pdf
- Burns: Retrieval of Children with Greater than10 percent Burn Injuries NETS http://webapps.schn.health.nsw.gov.au/epolicy/policy/4230

References

1. Australian & New Zealand Burn Association. 2012, Emergency Management of Severe Burns (EMSB), Course Manual (13th Ed.).
2. Advanced Life Support Group. 2012 (Australian Edition) Advanced Paediatric Life Support (APLS), Course Manual (5th Ed)
3. Herndon, D. 2012, Total Burn Care, 4th Edition, Elsevier
4. NSW Statewide Burn Injury Service: Clinical Practice Guidelines, 2010 NSW Health (available via SBIS website http://www.health.nsw.gov.au/gmct/burninjury).
5. Wounds International, 2014. International Best Practice Guidelines: Effective skin and wound management of noncomplex burns.