Title	NAI Burns
Applies to	RAH, IRH Paediatrics
Date of this version	February 2021
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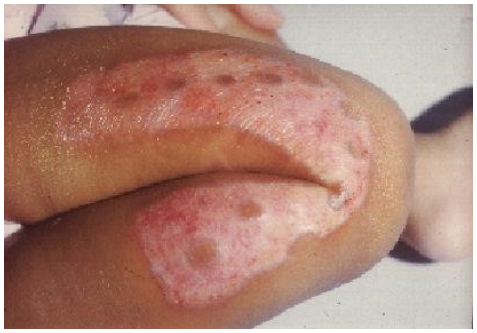
THINK! COULD THIS BE NAI?

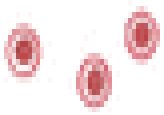
Artifactual or contact burns

- Burn wholly or partially resembles hot object e.g. iron, hair straightener, or implement that can be heated e.g. Spoon, fork.
- Uniform depth and clearly demarcated



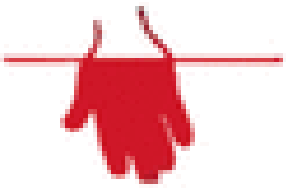
Cigarette Burns

- One or more rounded blistered/eroded lesion
- often multiple and on 'hidden' areas of skin
- Can be of differing ages



Forced Immersion Scalds

- Symmetrical distribution
- Sharply delineated borders
- Absence of splash marks
- involve buttocks, perineum and lower limbs
- "donut sparing" on buttocks or soles of feet (forced against bottom of cool bathtub)
- 'glove or stocking' distribution



Care of Burns in Scotland
National Managed Clinical Network

Guideline for the Management of Paediatric Burns (v1.0)

NHS SCOTLAND

Are there signs of airway injury? If yes, contact anaesthetist

If appropriate **COOL THE BURN** with cool running tap water. **Keep the child warm**

Is burn TBSA > 10%

YES

- Heat room
- Insert IVC
- Obtain FBC, U&Es, CRP Blood Glucose, G&S.
- Commence resus fluid
- Commence maintenance fluids
- Apply a loose layer of cling film
- Administer analgesia
- Keep patient warm
- Actively warm patient if cold
- Contact Burns/Plastics Registrar on-call to arrange transfer

Is transfer going to be delayed?

YES

- Dress wound with Urgotul SSD or similar dressing
- Keep child warm
- Insert NG and start slow feed on advice of receiving team
- If circumferential burn, discuss need for escharotomy with receiving team

NO

Continue care as above

NO

Is burn TBSA > 3%

YES

- Heat room
- Apply a loose layer of cling film
- Administer analgesia.
- Contact Burns/Plastics Registrar on-call to arrange transfer

NO

- Is burn full thickness?
- Does it involve hands, face, feet, perineum or joints?
- Is burn circumferential?
- Is burn electrical/chemical?
- Are there child protection issues? (see Child Protection Guideline on COBIS website)

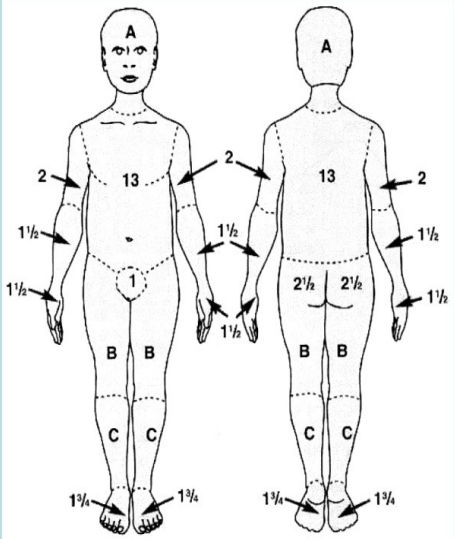
YES

- Apply a loose layer of cling film
- Administer analgesia
- Contact Burns/Plastics Registrar as per local arrangement/local burns unit to discuss transfer.

NO

- Deroof blisters
- Cleanse and swab wound
- Apply Urgotul SSD and a secondary dressing
- Patient can go home with appropriate follow up.

Check Immunisation and Tetanus Status



Relative percentages affected by growth

AREA	AGE 0	1	5	10	15	ADULT
A=½ of head	9½	8½	6½	5½	4½	3½
B=½ of one thigh	2¾	3¼	4	4¼	4½	4¾
C=½ of one leg	2½	2½	2¾	3	3¼	3½

FLUIDS - The initial resuscitation period is 24 hours, split into 2 periods:

FIRST 8 HOURS:

Modified **Parkland** formula - given as **Hartmann's** solution

Total Volume of Hartmann's = %TBSA x Wt. (in Kg) x 2

This should be the total volume of fluid given by 8 hours post-injury.
Target Urine output is 1 to 1.5 ml/kg/hour

Fluid boluses may be given initially or during resuscitation, depending on patient progress and discretion of clinicians, but over-resuscitation can cause major problems

SECOND 16 HOURS:

For this period, of resuscitation fluid is administered as **Colloid** solution: Albumin 4.5% (PPS)

Hourly Rate of Albumin 4.5% = %TBSA x Wt. (in Kg) x 0.1mls

IN ADDITION, GIVE MAINTENANCE FLUIDS

- 100ml/kg/day for the first 10 kg body weight
+ 50 ml/kg/day over 10kg and less than 20 kg body weight
+ 20ml/kg/day for each kg over 20kg body weight.

Oral / NG fluid volume is subtracted from maintenance fluids

WEBSITE www.cobis.scot.nhs.uk

PROSPECTIVE BURN FLUID RESUSCITATION CHART

CHI No _____ **D.O.B** _____

Referring Hospital _____ **Burns Centre** _____

INJURY DETAILS

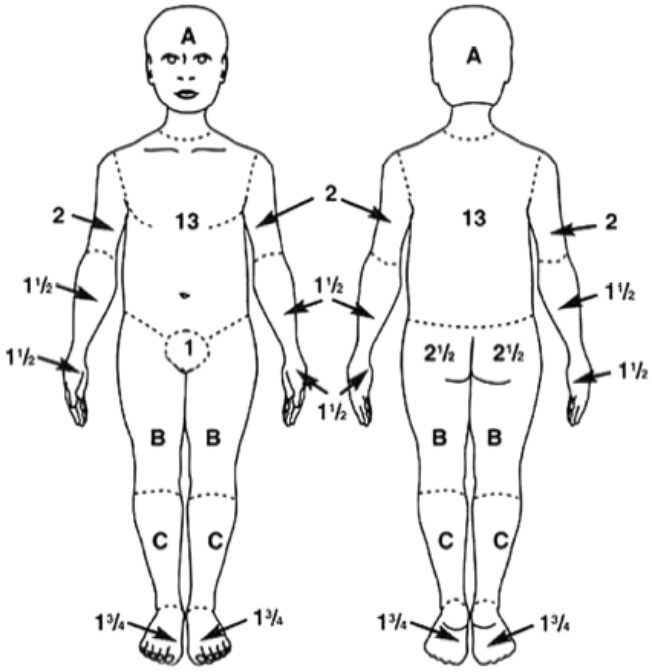
Date/time injury ____/____/20____ ____:____

Date/time arrival ____/____/20____ ____:____ **"LAG TIME"** _____ **hr**

Type of Burn **Flame** ☐ **Scald** ☐ **Chemical** ☐ **Electrical** ☐

Suspected Inhalation? **Yes** ☐ **No** ☐

Fluid Bolus Given **Yes** ☐ **No** ☐



Partial Thickness	
Full Thickness	
REGION	%
Head	
Neck	
Ant Trunk	
Post Trunk	
Right Arm	
Left Arm	
Buttocks	
Genitalia	
Right Leg	
Left Leg	
Total Burn	

AREA	AGE 0	1	5	10	15	Adult
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Actual Weight	kg
%TBSA	%

1ST 8 HRS POST INJURY

Total Volume Hartmann's

= Wt x %TBSA x 2

1st 8hr Volume=_____ml

2ND 16 HRS POST INJURY

Hourly Rate of HAS 4.5%

= Wt x %TBSA x 0.1mls

HAS rate =_____ml/hr

REMEMBER MAINTENANCE FLUIDS

Time from Injury (hrs)	Total Crystalloid (include boluses)	Total HAS	Heart rate (bpm)	BP	Urine Output (ml)
8					
24					
48					

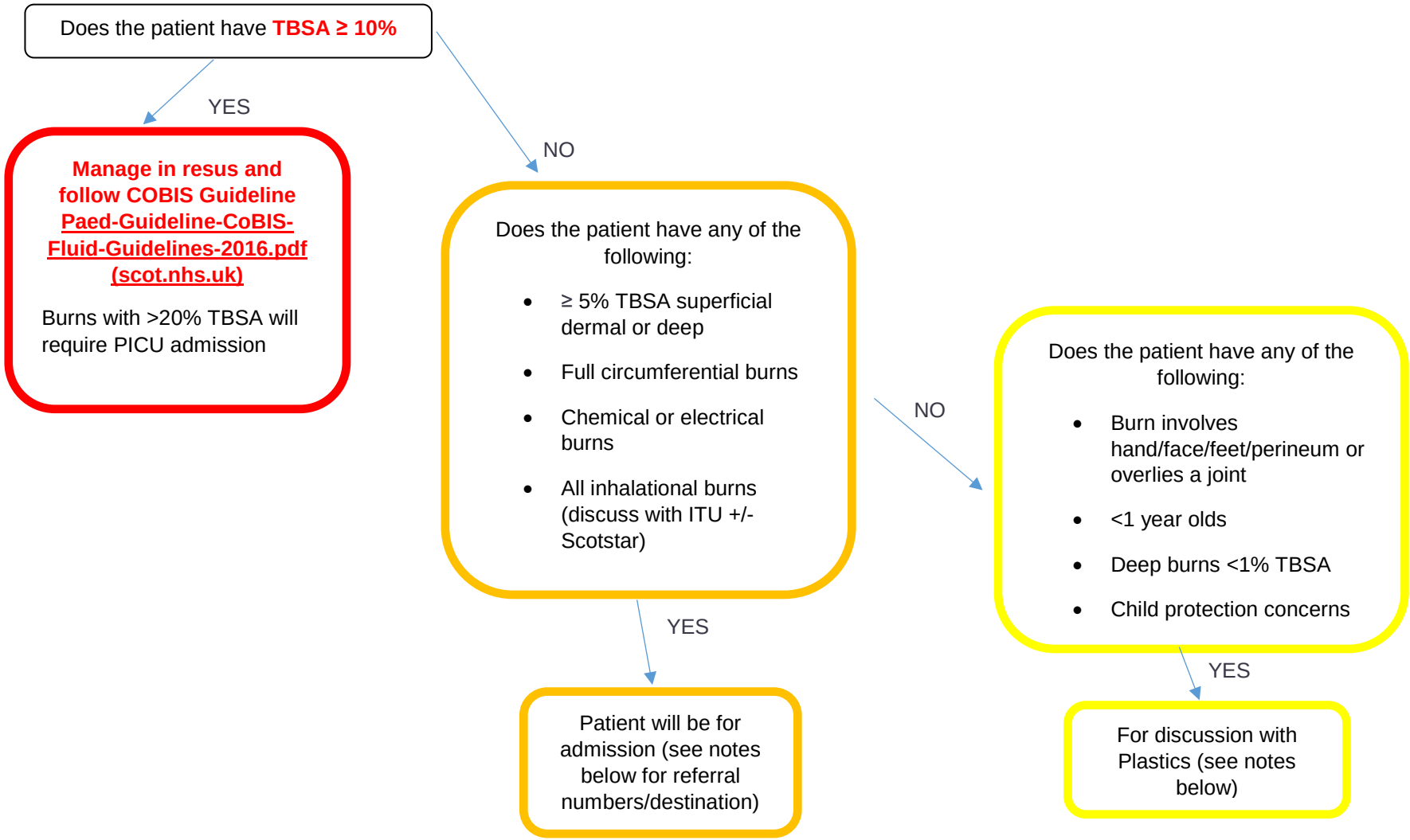
www.cobis.scot.nhs.uk

Author: Mr GM Walker, Consultant Paediatric and Neonatal Surgeon, NHS GG&C, October 2010
Reviewed by Mr D McGill, Plastic Surgeon, NHS GG&C,
and approved by COBIS Steering Group November 2016
To be reviewed November 2018

Paediatric Burns Pathway for RAH/IRH/VOL

At all times think 'Could this be Non Accidental Injury?' – NAI

For patients with airway/inhalational burns consider management in resus/early senior and ITU involvement



To refer contact:

Monday-Friday 8am-5om Plastics registrar page 13931. If any difficulty contacting call Burns CNS on 84866 or 07984004853

Out of hours contact Plastics registrar on call via switchboard and if you are unable to contact them then contact the paediatric surgical registrar on call

Patients will be admitted to 2C

Follow up for patients not being admitted. This should be as near to 48 hours after initial attendance as possible

- **Nurse led burns clinic at RHC** (Monday, Tuesday, and Friday)
- For all patients with above criteria that are not admitted
- More complicated burns/larger burns likely to need further management.
- If in doubt discuss with burns team.
- Email clinical and parent contact details: appointments.newchildrenshospital@ggc.scot.nhs.uk and cc in ggc.paediatricburns@nhs.scot. Parents will be called with an appointment, most likely the day before. Please ask parents to give analgesia 30 mins prior to the appointment.
- If a burns clinic appointment is not available within the appropriate time frame (within 48 hours), children can be referred to the CCNT for a dressing change prior to being reviewed in the burns clinic.

Childrens' Community Nursing Teams (CCNT)

- The CCNT can do dressing changes and provide parental education on burns management. This is suitable for simple burns, smaller areas and fingertip burns.
- **Referral to CCNT**
- Paisley: 0141-3144662
- Inverclyde: 01475-505065
- VoL: Email ggc.acorncommunitychildrensnursingteam@nhs.scot
- Include the following details: Patient name/CHI/injury mechanism and time/treatment given/date of follow up required/parent name and phone number. Please check address and phone number is correct.
- CCNT see the patient in their own home. They work Mon-Fri excluding public holidays.
- They can liaise with the burns team at RHC as needed.
- All patients referred to CCNT should be discharged with supplies for dressing changes x2
- 2x: dressing pack, saline sachets, urgotul SSD, any bandages.
- Please create a PORTAL note for children referred to CCNT

ED management

Nursing:

- Give analgesia
- Deroof blisters and debride as needed
- Swab all separate areas
- Dress with urgotul SSD/silver
- Facial burns should be given prontosan gel and advised to keep clean/away from pets/stay indoors where possible

Medical:

- Ensure the family have adequate analgesia for the child at home and advise a dose should be given before their next dressing change.
- Arrange appropriate follow up as above.
- Advise the parents to return to the ED if their child develops any symptoms of infection or Toxic Shock Syndrome. These are fever and/or vomiting and/or diarrhoea and /or rash.
  Young children are at risk of developing Toxic Shock Syndrome even from a very small burn.
- Give the advice sheet ‘Looking after your Childs Burn’