ACI Statewide Burn Injury Service
Three tertiary referral burn units

**Adults**
- Royal North Shore Hospital 9 beds + ICU
- Concord Repatriation General Hospital 10 beds + ICU

**Paediatrics**
- The Children’s Hospital at Westmead 8 beds
Burn Unit activity

Annual

- 3234 burn cases treated at the 3 units
- 922 acute admissions
- 3120 treated in Burn Ambulatory Care
- 10,228 OOS in Ambulatory Care
- Average 73 per year >20%TBSA
ACI Statewide Burn Injury Service

- Guidelines and Model of Care
- Burn education to clinicians
- Development of online Burn Hub Beyond Burns - survivors + clinicians
- Data registry both NSW and Aus & NZ+ Quality Improvement Program
- Prevention and first aid programs
- Research collaboratives
- Partnerships
- Clinical Practice Review
- Trauma App
- Secure Image capture storage & forwarding project with eHealth
Resources online

- Transfer Guidelines
- Allied Health
  - Physio/Occ Therapy
  - Speech Path
  - Nutrition
  - Play therapy
  - Social Work
- Burn Management
- Minor Burn Management
- Escharotomy
Skin Laboratory
Reviews:
- Submissions from clinicians across NSW Burn Units
- All deaths
- Clinical issues leading to adverse outcomes
- Clinical trends
- Transfers to the Service
Transfer Feedback Form
The ACI Statewide Burn Injury Service endeavours to continually improve the clinical care and service to our burn patients and to optimize patient health outcomes.

The patient transfer process has been identified as a focus for improvement activities. To this end, the NSW Statewide Burn Injury Service Clinical Practice Committee has developed a two-way feedback form in order to provide feedback to the referring hospital/facility following a patient transfer to one of our constituent burn units i.e. Royal North Shore Hospital, Concord Repatriation General Hospital and the Children’s Hospital at Westmead.


The Patient Emergency Assessment and Management Chart should be used when assessing, managing and transferring a patient to the burn units and can be found also at the above link as an appendix to the Transfer Guidelines and now available as a State Form NH700244.

The NSW Trauma App is now available for both android and iOS platforms. This app includes interactive Burn assessment calculators for paediatrics and adults as well as Guidelines, checklists and useful links to burn specific resources.

Each patient transfer will have a form, based on the transfer guidelines, returned to the referring hospital/facility in a timely manner.

Please discuss this feedback with all relevant staff from your facility.

Please give us your feedback on this form about the transfer process for this patient from your perspective. Could we improve the process? Could communication be improved? Could your hospital/facility benefit from further education regarding the transfer process or other burns related issues?
Fax no: 9463 2006 or email amie.darton@health.nsw.gov.au

Email Consult is available at the three burn units and digital photos can be attached to the email. CHW: kate.rumboldt@chw.edu.au RNSH: NSLHD-BurnsConsult@health.nsw.gov.au
CRGH: rcri-concordburnsunit@health.nsw.gov.au

The NSW Statewide Burn Injury Service can arrange for staff education. We can be contacted at the Severe Burns Unit, Level 6 Clinical Services Building, Royal North Shore Hospital Reserve Rd St Leonards NSW 2065 Tel: 02 9463 2105 or email the Network Manager Anne Darton anne.darton@health.nsw.gov.au.

Website: www.aci.health.nsw.gov.au the website now has burn care presentations on the ‘Education’ and ‘Resources’ tabs.

<table>
<thead>
<tr>
<th>Date of Transfer:</th>
<th>Date form completed:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Patient Name:</th>
<th>Referring hospital/ healthcare facility:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>MRN:</th>
<th>Referring Doctor:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Assessment:</th>
<th>Referring Hospital</th>
<th>Burn Unit</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage TBSA</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other injuries</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Referral Criteria met
- Contacts made as per guidelines? Yes □ No □ N/A □
- Mode of transfer appropriate? Yes □ No □ N/A □

Stabilisation
- First aid/ cooling the burn Yes □ No □ N/A □
- Prevention of hypothermia Yes □ No □ N/A □
- Respiratory care Yes □ No □ N/A □
- Circulatory care Yes □ No □ N/A □
- Gastrointestinal care Yes □ No □ N/A □
- Pain management Yes □ No □ N/A □
- Wound management Yes □ No □ N/A □
- Tetanus prophylaxis Yes □ No □ N/A □

Fluid resuscitation
- Modified Parkland formula Yes □ No □ N/A □
- Appropriate solution used Yes □ No □ N/A □
- Paediatric maintenance fluids Yes □ No □ N/A □

Documentation
- Burn Patient Emergency Assessment & Management Chart from TFF Guidelines used: Yes □ No □ N/A □

Completed by: Director:

General Comments/ Recommendations/Clinical Update:

Print Name & Designation: Signature:

- □
- □
- □
Other issues included: temp control, circ care, analgesia, dressing choice, tetanus prophylaxis, resp care, escharotomy, transfer mode
Recognising burn depths chart

Epidermal burn (erythema)
- Damage to epidermis only; skin intact, no blisters present
- Erythema, red
- Brisk capillary refill
- Heals spontaneously within 3–7 days with moisturiser or protective dressing.

Superficial dermal burn
- Damage to upper layer of dermis
- Pink; blisters present or absent
- Brisk capillary refill (under blister)
- Should heal within 7–10 days with minimal dressing requirements.

Mid dermal burn
- Damage into mid dermis
- Dark pink
- Sluggish capillary refill
- Should heal within 14 days
- Deeper areas may need surgical intervention and referral.

Deep dermal burn
- Burn extends into deeper layers of dermis, but not through entire dermis
- Blotchy red/white
- Sluggish to absent capillary refill
- Generally needs surgical intervention
- Refer to specialist unit.

Full thickness burn
- Destruction of entire dermis; sometimes underlying tissue involved
- White, waxy, cherry red, brown, black
- No capillary refill
- Surgical intervention and long-term scar management required
- Refer to specialist unit.
Prevention

• Data drives activities
• School programs
• Media campaigns
• Prevention + first aid info on website
• Promotional stalls
• Dept of Fair Trading & ACCC
• Partnerships
Rehabilitation

• Improving links with Graythwaite Rehabilitation Centre and other rehab facilities

• Burn Rehabilitation Course run every year
Transfer Guidelines
Burn transfer flowchart

**Retrieval**

- intubated patient
- inhalation injuries
- head/neck burns
- >10% in children
- >20% in adults
- burns with significant comorbidities
- associated trauma
- significant pre-existing medical disorder
- circumferential burn to limbs or chest that compromises circulation or respiration
- significant electrical including lightning injuries
- significant chemical, e.g. hydrofluoric acid

**Referral**

- >5% children, >10% adults
- burns to the hands, feet, genitalia, perineum, or major joints
- chemical burns
- electrical burns
- burns in patients with pre-existing medical conditions
- suspected non-accidental injury including children, assault or self-inflicted
- pregnancy with cutaneous burns (RNSH 2nd & 3rd trimester)
- extremes of ages

**Minor burns**

Burns that do not fit the criteria for retrieval or referral and can be managed in a non-burn unit hospital or clinic, including appropriate management for wounds and pain.

Minor burns can be treated, in consultation with the referring clinician, on an outpatient basis; either locally (at original place of care), or on referral to an ambulatory care burn clinic for assessment.

**Contact retrieval service.**

**Adults:** ACC 1800 65 0004

**Children:** NETS 1300 36 2500

Set up conference call with receiving burn unit and ICU (if required), facilitates communication with primary referral site.

**CHW ICU:** 9845 1171

**CRGH ICU:** 9767 6404

**RNSH ICU:** 9463 2600

AMRS/NETS will coordinate transfer between the primary hospital and the receiving hospital.

**Contact registrar on-call for burns.**

**CHW:** 9845 0000, then page registrar on-call for burns

**CRGH:** 9767 5000, then page registrar on-call for burns

**RNSH:** 9926 7111, then page registrar on-call for burns

**The on-call registrar will offer advice and arrange a bed in liaison with bed management and the burns unit. They are responsible for receiving the patient. The referee will make the ambulance booking.**

**Contact burn ambulatory care.**

**CHW:** 9845 1550 (b/h)

9845 1114 (a/h)

kidburns@chw.edu.au

**CRGH:** 9767 7775 (b/h)

9767 7776 (a/h)

slhd-concordburnsunit@health.nsw.gov.au

**RNSH:** 9463 2108 (b/h)

9463 2111 (a/h)

NSLHD-burnsconsult@health.nsw.gov.au

**Treated locally. Referred to burn unit.**
Referral Criteria: Medical Retrieval

- Any intubated patient
- Inhalation injuries with cutaneous burns
- Head and neck burns
- Dermal or full thickness burns >10% in children
- Dermal or full thickness burns >20% in adults
- Burns with significant co-morbidities
- Associated trauma
- Circumferential burn to limb or chest that compromises circulation or respiration
- Electrical conduction injury with cutaneous burns
- Chemical injury with cutaneous burns
Criteria for Retrieval - Intubated
Criteria for Retrieval – Head, face, neck

photo courtesy of P.Campbell CNC RNSH
Criteria for Retrieval – Co-morbidities
Referral criteria: Transfer

- Dermal or full thickness burns in adults >10% TBSA
- Dermal or full thickness burns in children >5% TBSA
- Burns to the face, hands, feet, genitalia, perineum, and major joints
- Chemical burns
- Electrical burns including lightning injuries
- Burns with concomitant trauma
- Burns with associated inhalation injury
- Circumferential burns of the limbs or chest
- Burns with pre-existing medical conditions that could adversely affect care and outcome
- Suspected non-accidental injury including children, assault or self inflicted
- Pregnancy with cutaneous burns
- Burns at the extremes of age – infants and frail elderly
Referral criteria - specialised areas

Hands, feet, genitalia, perineum, joints
Process

• Medical Retrieval
  • AMRS /NETS set up conference call with receiving ICU & Burn Unit, facilitates communications with primary referral site & coordinate transfer

• Transfer referral
  • Burns Registrar/fellow or Surgical Registrar (CHW) on call
  (first registrar contacted is responsible to find a bed at the other burns unit if unavailable at theirs)
Digital Photo Referral/Advice

- Children’s Hospital at Westmead
  kidsburns@chw.edu.au
  9845 1114

- Royal North Shore Hospital
  NSLHD-BurnsConsult@health.nsw.gov.au
  9463 2111

- Concord Repatriation General Hospital
  Slhd-concordburnsunit@health.nsw.gov.au
  9767 7776
Trauma App
Circumferential burn - chest

Circumferential full thickness or deep dermal burn to the thorax and abdomen?

- Yes
  - Secure the airway
  - Oxygen by rebreathing mask
  - Endotracheal intubation should be considered early if the airway is compromised.

- No
  - Return to burn management plan

Signs of respiratory compromise:
- Restricted movement of the chest wall or abdomen
- Reduced air entry bilaterally
- Shallow respiratory effort
- Tachypnoea
- Hypoxia

NB In paediatric burns to the abdomen may compromise respiratory function due to their abdominal breathing pattern.

- Yes
  - Contact the Burn Registrar at a specialist burn unit

- No
  - Continue monitoring for 24 hours post-burn

Escharotomy may be necessary to relieve pressure if respiration is compromised (see Escharotomy guideline)

Consultation with the relevant burns unit should always be made before embarking on escharotomy.

ACI Statewide Burn Injury Service
April 2015
33% Estimated TBSA %

316 mls/hr Adjusted Parkland Fluid Rate (first 8 hours)
Calculated from time of burn minus fluid already given

201 mls/hr Next 16 Hours Parkland Fluid Rate

32 mls/hr Targeted Urine Output mls/hr
(0.5 mls/kg/hr)

Answers

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (kg)</td>
<td>65</td>
</tr>
<tr>
<td>Prehospital IV Fluids (mls)</td>
<td>1000</td>
</tr>
</tbody>
</table>
Confirm Weight (kg) and Age (years)

If 16 years or over use the Adult Burn Calculator.

Age (years) 2
Weight (kg) 18
Prehospital IV Fluids (mLs) 500
Time since burn 1hr

1 ABC 2 3 DEF
4 GHI 5 JKL 6 MNO
7 PQRS 8 TUV 9 WXYZ
0
Estimated TBSA %: 8%

Fluid resuscitation not required with < 10% estimated TBSA burns

Next 16 Hours Parkland Fluid Rate:
- Urine Output: 18 mls/hr (1 mls/kg/hr)
- Maintenance Fluid: 56 mls/hr (1 mls/kg/hr)

Answers:
- Age (years): 2
- Weight (kg): 18
ACI Statewide Burn Injury Service