

HOTT Topics: management of burns and inhalational injury in the general ICU

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@chelwestICU



Who are we?

- Two hospital trust based in West London – Chelsea and Westminster Hospital and West Middlesex University Hospital.
- The Burns Centre for the capitol is based on the CW site on the Fulham Road.
- We have 2 x level 3 burns beds: 2x level 2 burns beds; 12 x adult inpatients and 6x paediatric inpatient beds



'First Aid'

Stop the burning process

Cool the burn wound

Cover with a non-adherent occlusive dressing

Keep the person warm

Seek help/ advice



A little about the world of burns

Organisation of Burns Care

❖ **Burn Centres**

- ❖ Most severe injuries
- ❖ Highest level of critical care (BICU)

❖ **Burn Units**

- ❖ Moderate size/severity
- ❖ Critical care (typically BHDU level)

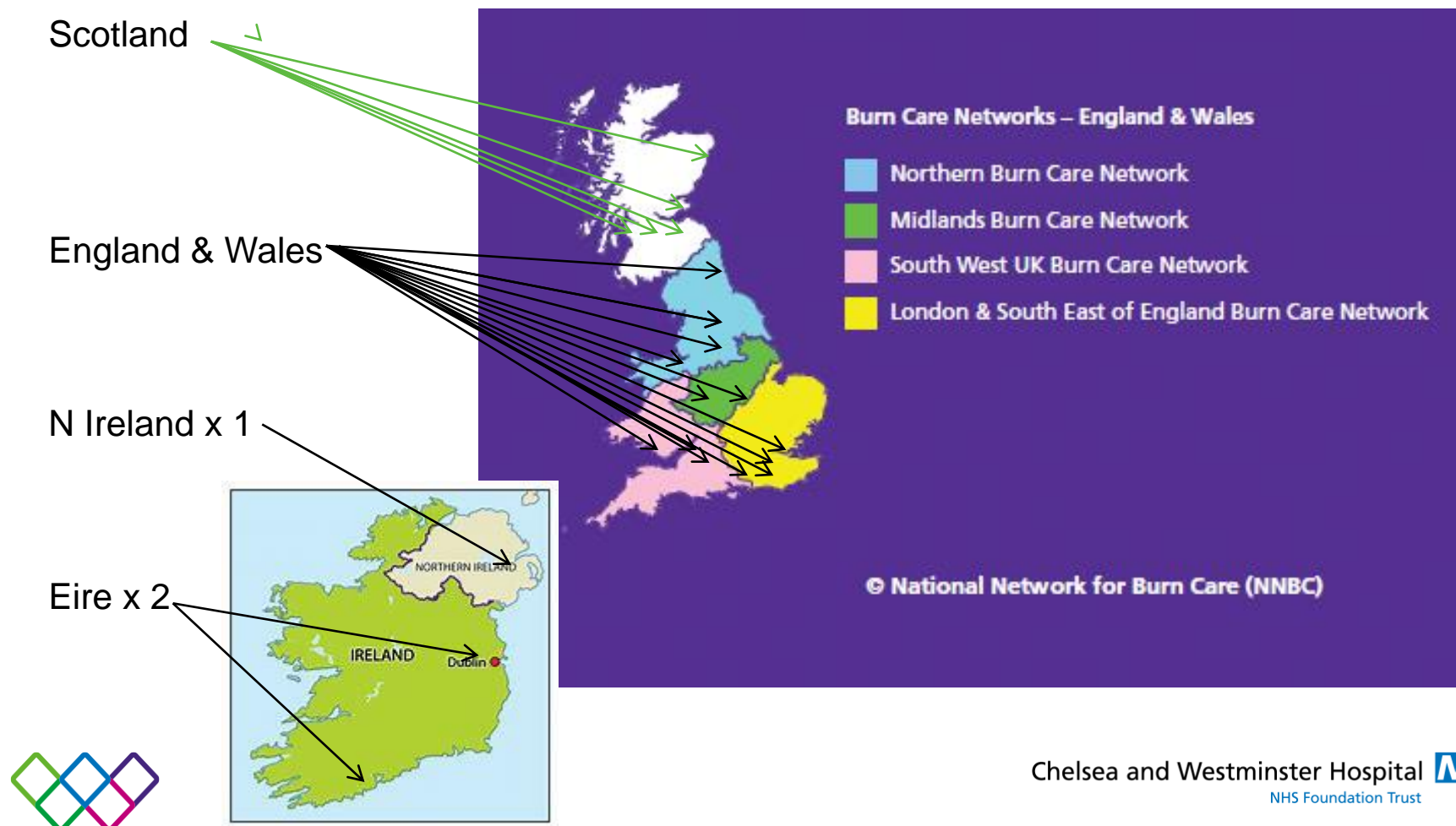
❖ **Burn Facilities**

- ❖ Less complex burns
- ❖ Non-critical



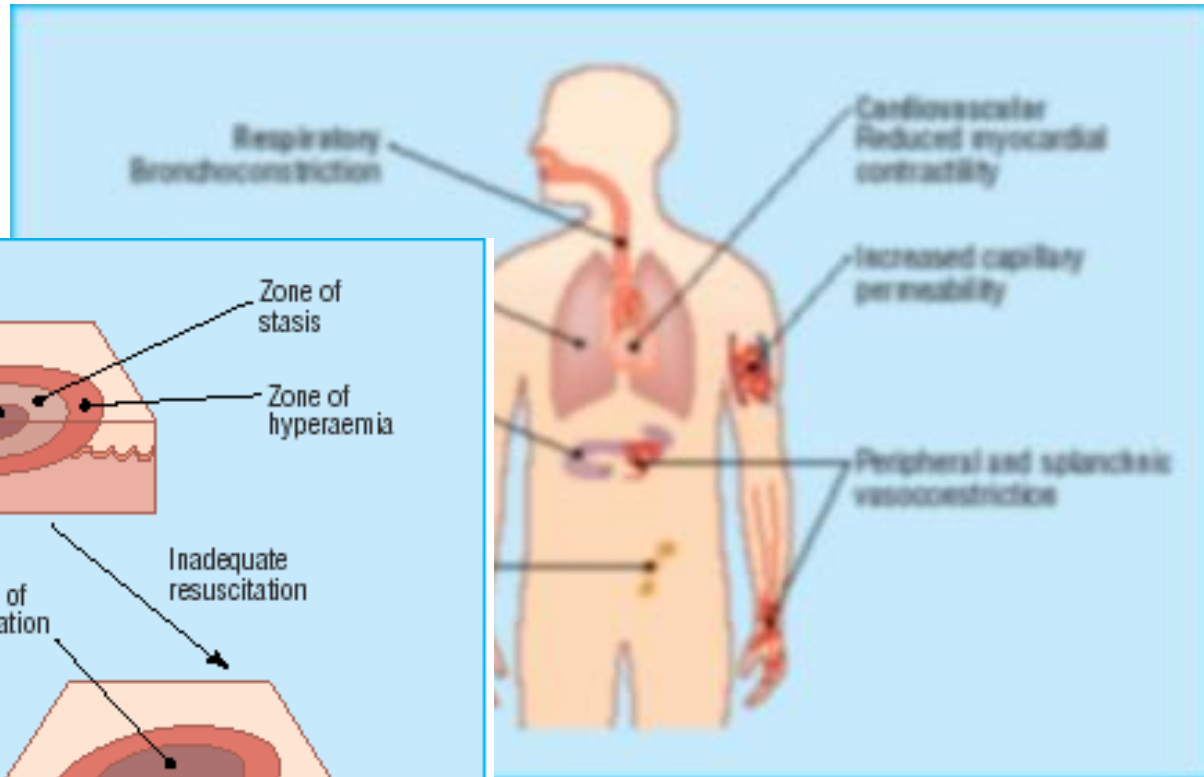
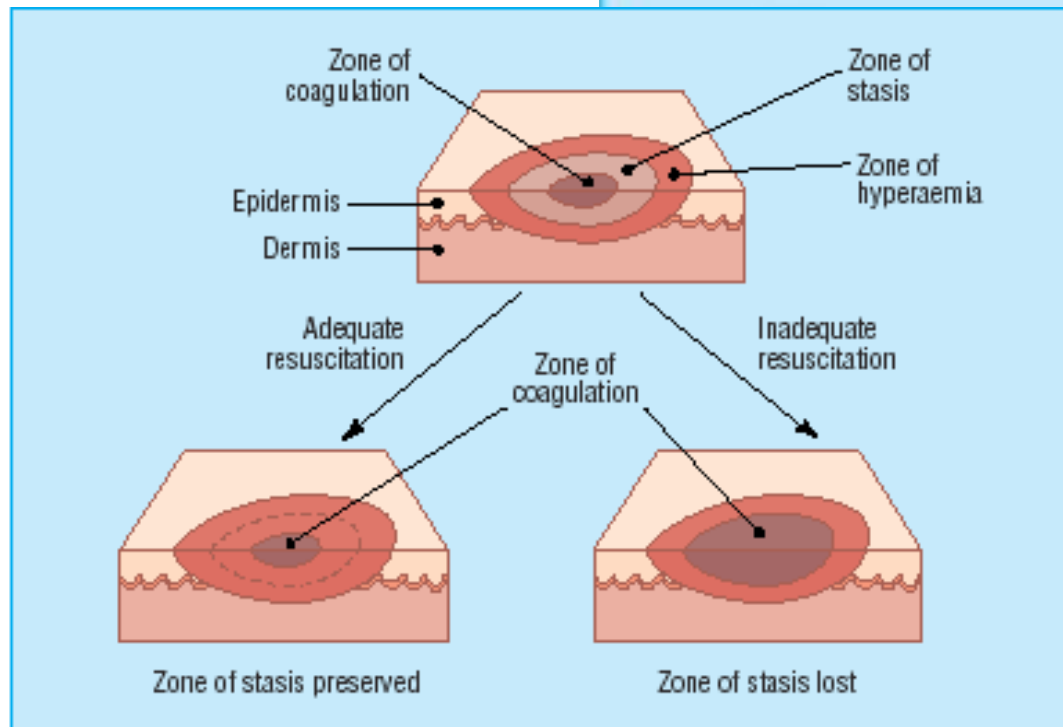
National Burns Centres

There are 24 burns centers and a number of burn units and facilities accepting burns patients across the UK and Eire.



What's different about a Burns ICU patient

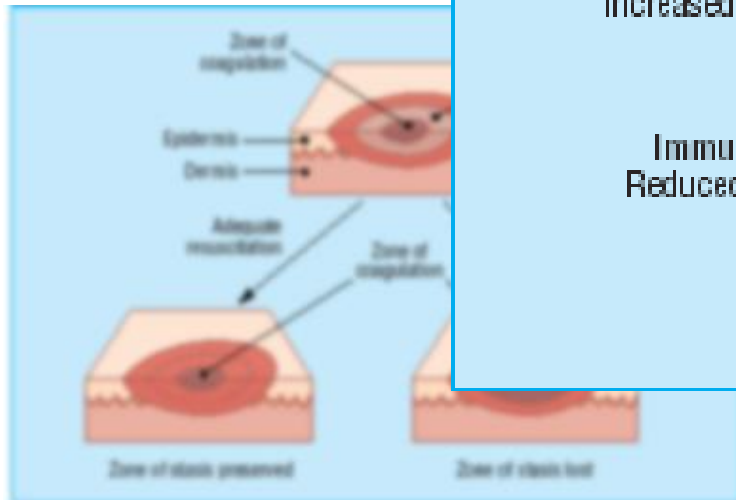
Local effects



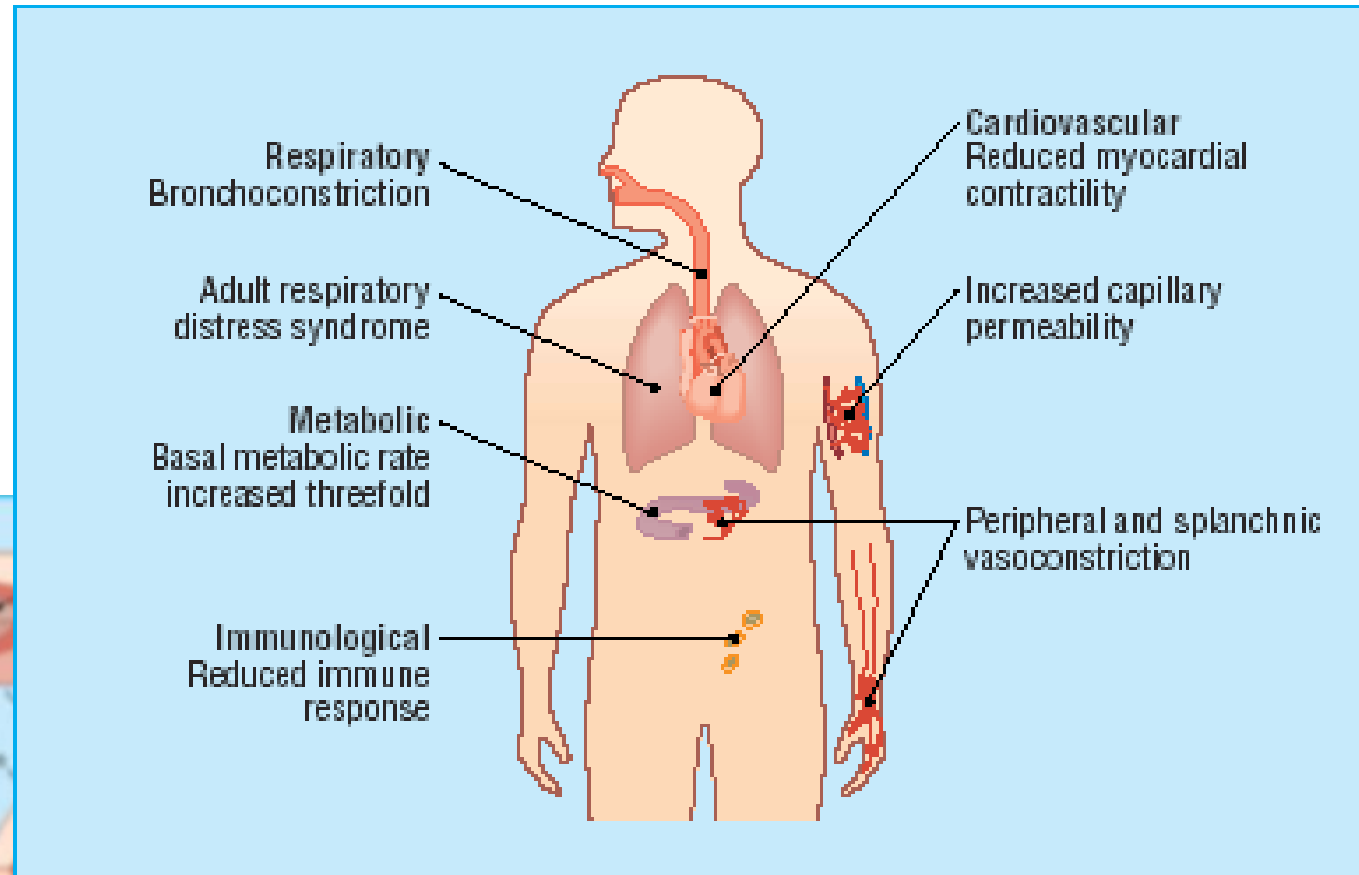
Jackson's burns zones and the effects of adequate and inadequate resuscitation



What's different about a Burns ICU patient



Jackman's burns zones and the effects of adequate and inadequate resuscitation



Systemic Effects



Practically what does this mean

- Difficult Airways
- Fluid requirements
- Systemic poisoning
- Thermoregulation challenging
- Nutrition
- Acute kidney injury
- Infection
- Dressings
- Mental health



Why might a Burns ICU patient end up on a General ICU?

This is rare

Most common reason is awaiting transfer to a specialist ICU

- Other reasons include
 - Major incidents & mass causality incidents
 - Inhalation injury with small or no burn
 - Major trauma as well as burns*
 - Palliative Care

*There is no MTU and BCC co-sited in London



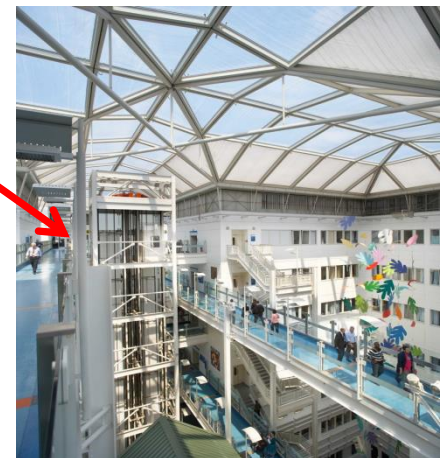


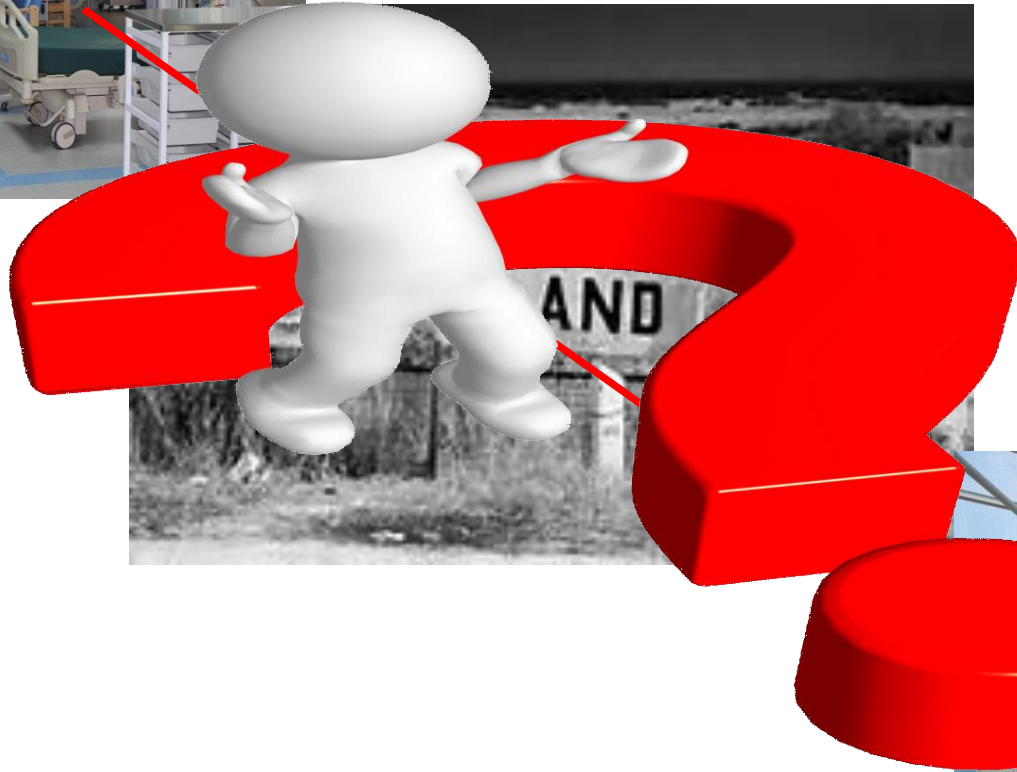
Workshops

Inhalation injuries

Initial Management







Referrals



National Network for Burn Care (NNBC)

National Burn Care Referral Guidance

Version 1, Approved February 2012



Specialised Services

Burn Referral Guidelines: Criteria for Referral

Adults and children with the following injuries should be discussed with the local Burn Service

- Inhalation injury
- Deep dermal and full thickness
- Electrical
- Chemical
- Burns with trauma

Cause

Affected Area

- Face, hands, genitals, feet, joints, scalp, ears
- Circumferential

Size

- >1% Total Body Surface Area [TBSA] in children
- >3% TBSA in adults

Age

- Neonates (<28 days old)

Wound

- Not healed within 2 weeks
- Infected

DISCUSS

- Suspected non accidental injury, mental health history or self-harm
- Progressive non burn skin loss conditions (TENS, SSSS, Necrotising Fasciitis)
- Significant co-morbidity (eg diabetes) or immunocompromised patients
- Friction burns with full thickness skin loss
- Cold burns with full thickness skin loss
- Older people (60+)
- Children "unwell" with a burn (see below) *
- Any other case that causes concern

* Toxic Shock Syndrome /Burns Sepsis Syndrome

Seek early advice from local Burn Service

Consider treating with fluid resuscitation, IV antibiotics +/- FFP

MEDICAL EMERGENCY

Any patient
Any size burn
Any of these symptoms
=
Risk of Toxic Shock Syndrome

- Temperature > 38°C
- Rash
- Diarrhoea and vomiting
- General malaise
- Not eating or drinking
- Tachycardia/tachypnoea
- Hypotension
- Reduced urine output



If in doubt, seek early advice from local Burn Service

Telephone support and advice on initial care of any patient with a burn injury is available at all times

Approved by LSEBN CGG on December 2015

London and South East of England Burn Network

CONTACT DETAILS



www.trips.nhs.uk

St Andrews Burns Service
Broomfield Hospital (Chelmsford)
Adults/Children **01245 516037**

Chelsea & Westminster Hospital (London)
Adults **02033152500**
Children **02033153706**

Queen Victoria Hospital (East Grinstead)
Adults **01342 414440**
Children **01342 414469**

Stoke Mandeville Hospital (Aylesbury)
Adults and Children **01296 315040**



Each network has local arrangements

e.g. LSEEBN referral portal: www.trips.nhs.uk

Local ED's are pre-registered

The National Burns Bed Bureau (NBBB) :


01384 679 036



London and South East of England Burns Network


Burn Referral Guidelines: How to Refer

ASSESS



<u>Burn Injury</u>	<u>Wound</u>
Date & Time Affected areas Cause Size Depth First Aid measures Other injuries	Clean wound Remove all loose non-viable tissue Refer to Bilster Management Guideline
<u>History</u>	<u>Psychosocial</u>
Allergies Medications Past medical history Last Meal (time) Events/Environment related to injury	Social concerns Safeguarding concerns Psychiatric history Substance misuse history Next of Kin


PHOTOGRAPH



TRIPS Referral is available to all clinicians across the NHS
LSEBN Referral and Initial Management guidelines are available via TRIPS Help & Information on www.trips.nhs.uk

- Remove all dressings and clingfilm
- Photograph cleaned burn wounds using digital camera
Images taken on a mobile phone will not be accepted
- Take a photo to show the location of the wound on the body and a close-up of the wound itself
- Log on to TRIPS website www.trips.nhs.uk from your Trust PC
- Register, if needed using your Trust or nhs.net e-mail
- Click on: "Refer a patient"
- Select:
 - **Speciality:** Burns
 - **Area:** by Location of referring team
 - **Referring Hospital:** by Town
- Complete TRIPS referral form
- Attach photographs and send to local Burn Service


REFER



If unable to access TRIPS, contact your local Burns Service

- Refer patient by calling the **local Burn Service**
- All burn injuries that fall within the **Burn Referral Criteria** should be discussed with the **local Burn Service**
- Telephone support and advice on initial care of any patient with a burn injury is available at all times

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Adults and Children 01296 315040

Approved by LSEBN CCG on December 2015

What to consider when transferring a level 3 burns patient

Follow level 3 ICS transfer recommendations as per normal, but also consider:

Airway	Large Uncut ET tube Facial burn - Sit upright at 60-90°	Disability	Analgesia Other trauma
Breathing	Check COHb – if elevated FiO ₂ 1.0 Cyanide poisoning suspected – cynokit 5g Lung protective ventilation	Exposure	Cover burn wounds with clingfilm Active warming measures: aim 36.5-37°C
Circulation	2X IV's - unburnt skin when possible Elevate burnt limbs Consider escharotomy need if circulation to limbs compromised		
Fluids	Parklands formula 2-4mls/kg/%TBSA ; first ½ over 8 hours, second ½ 16 hours UO- 0.5- 1.0ml/kg/hour NGT or NJT inserted		



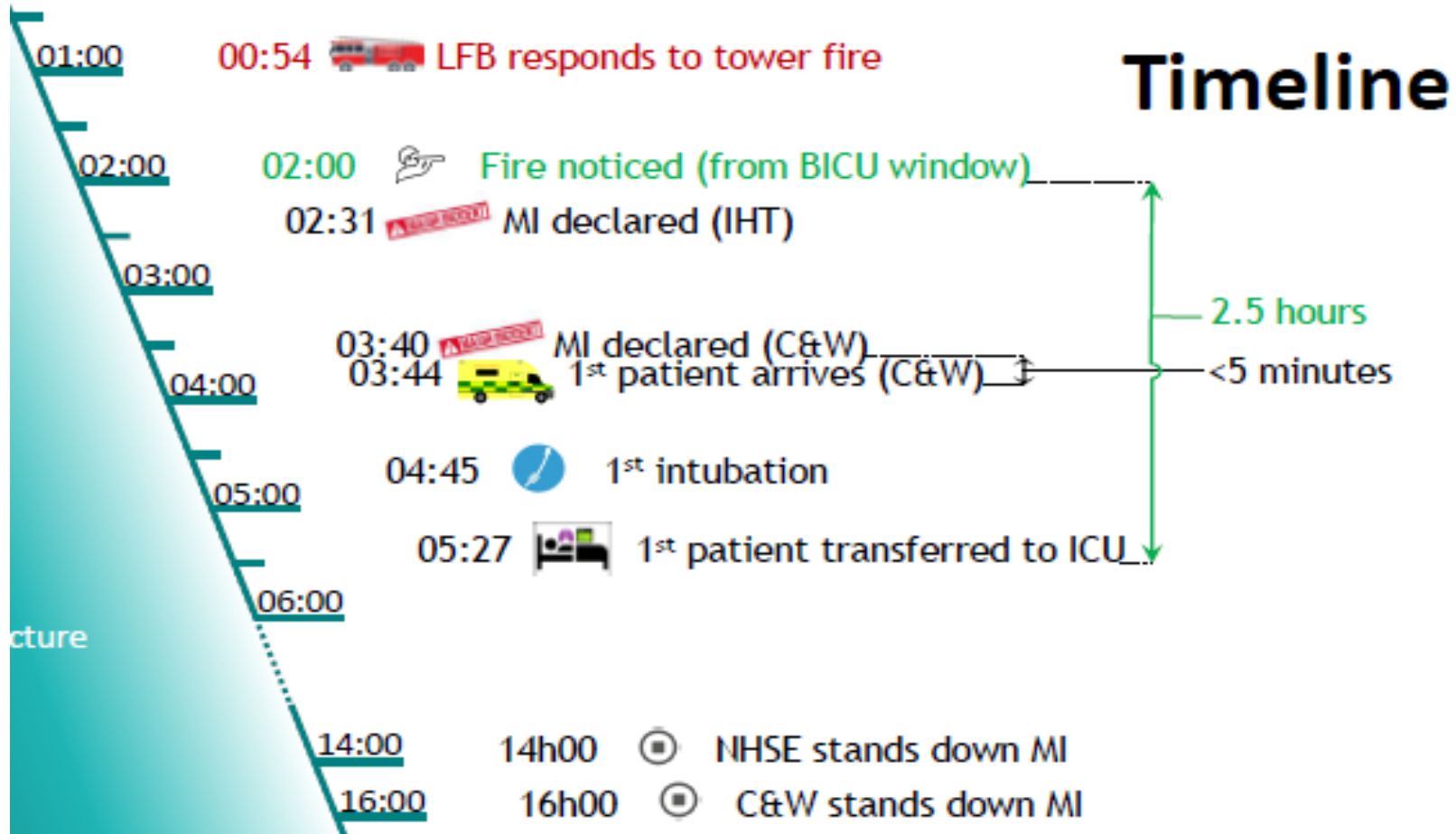
Grenfell Fire – it could have happened anywhere



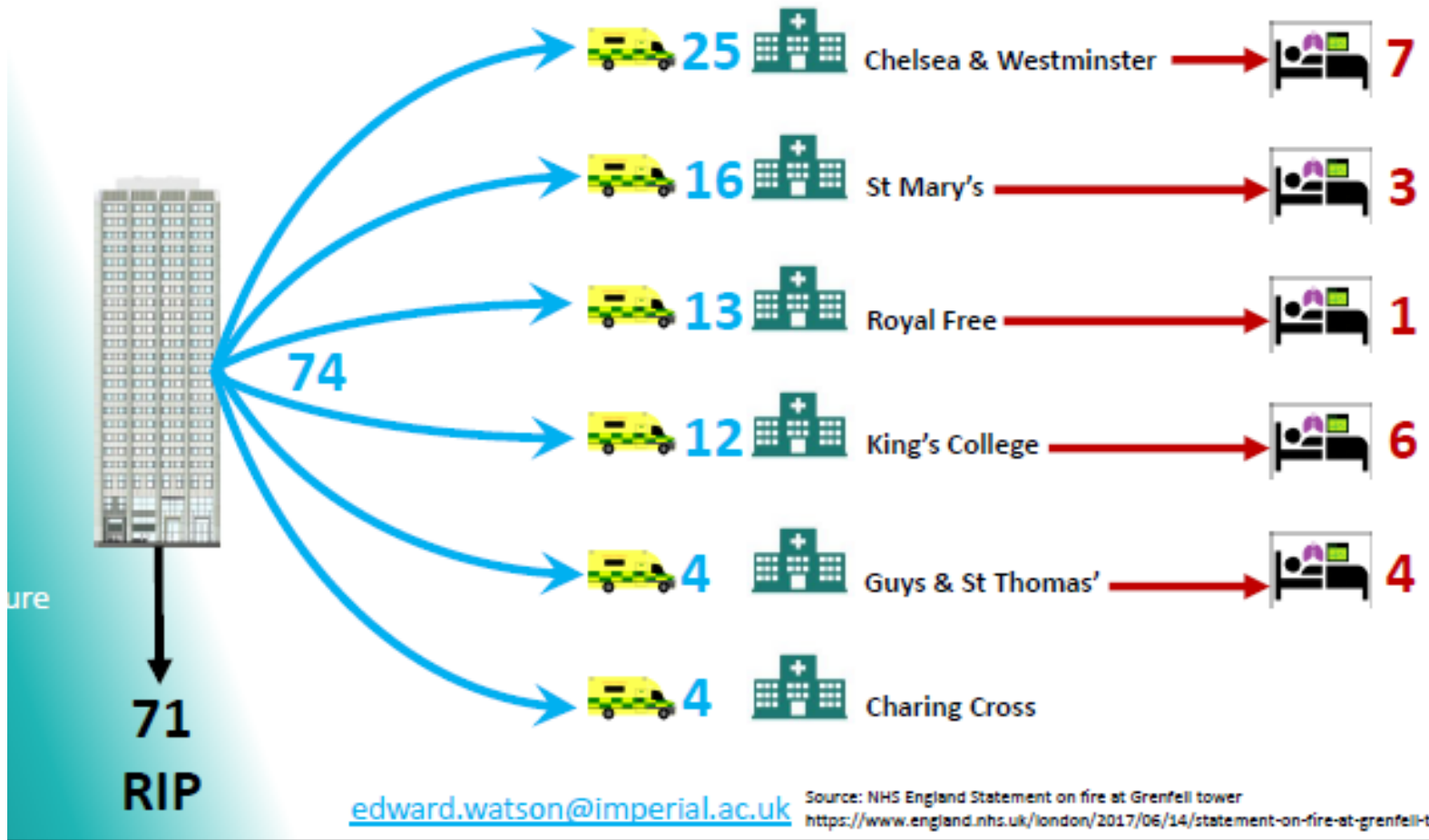
Acknowledgements to Dr Edward Watson
for sharing content for this presentation



Timeline: Slow then very fast



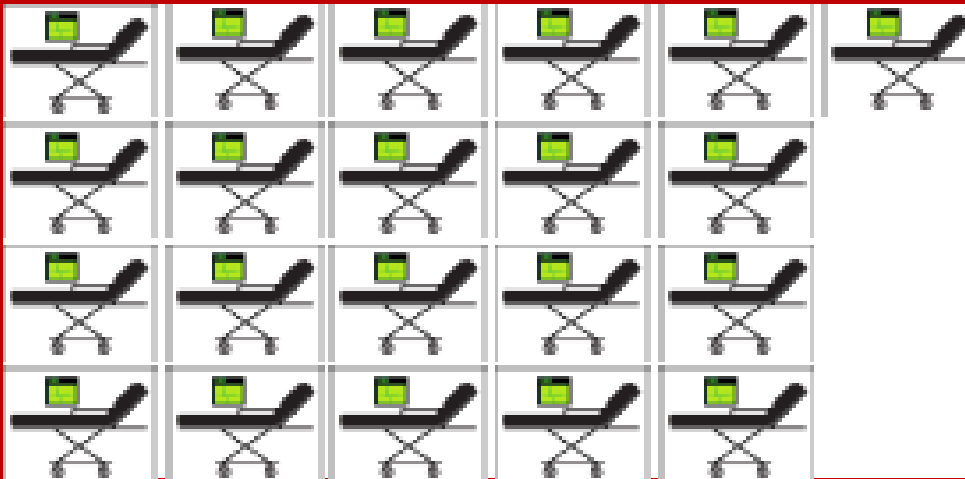
Casualties



Our Response as a Trust

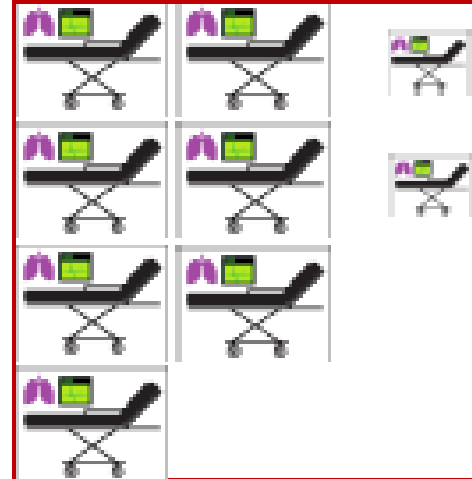
A&E CAPACITY

Majors



21

Resus

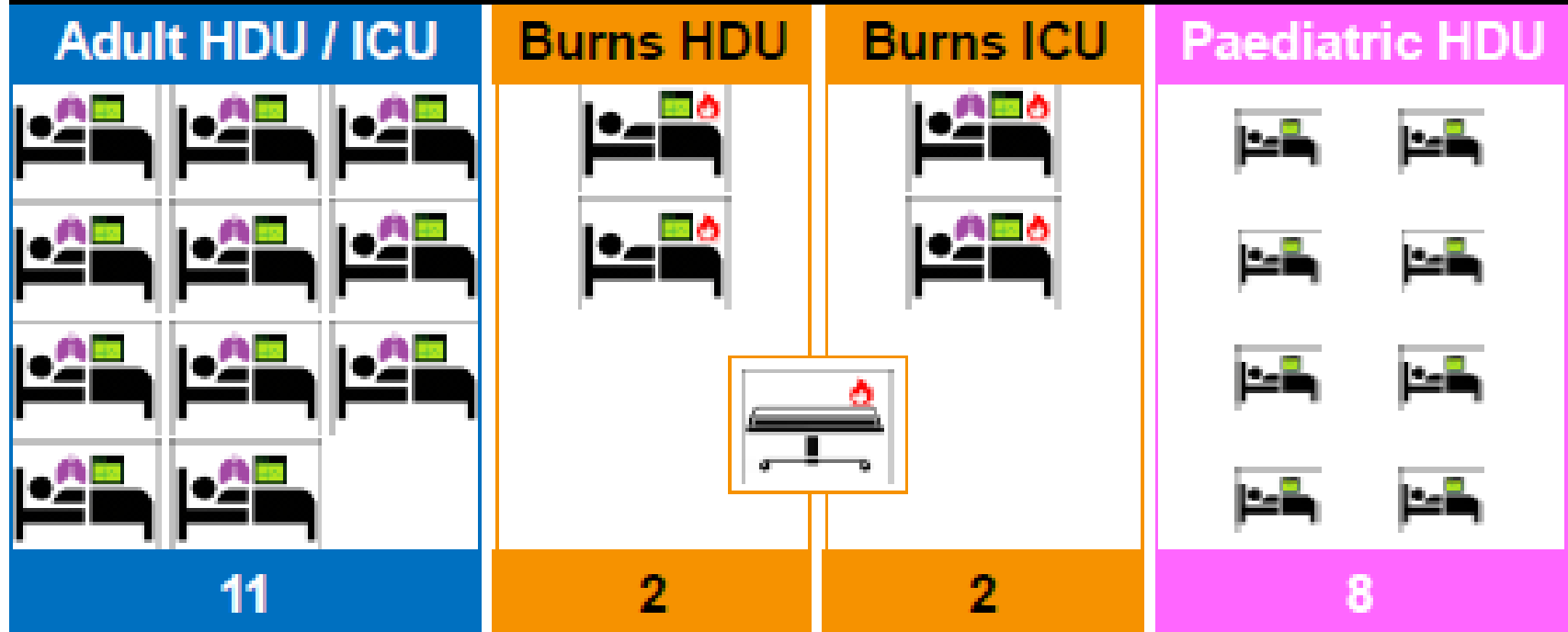


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7 Adult / 2 Paed

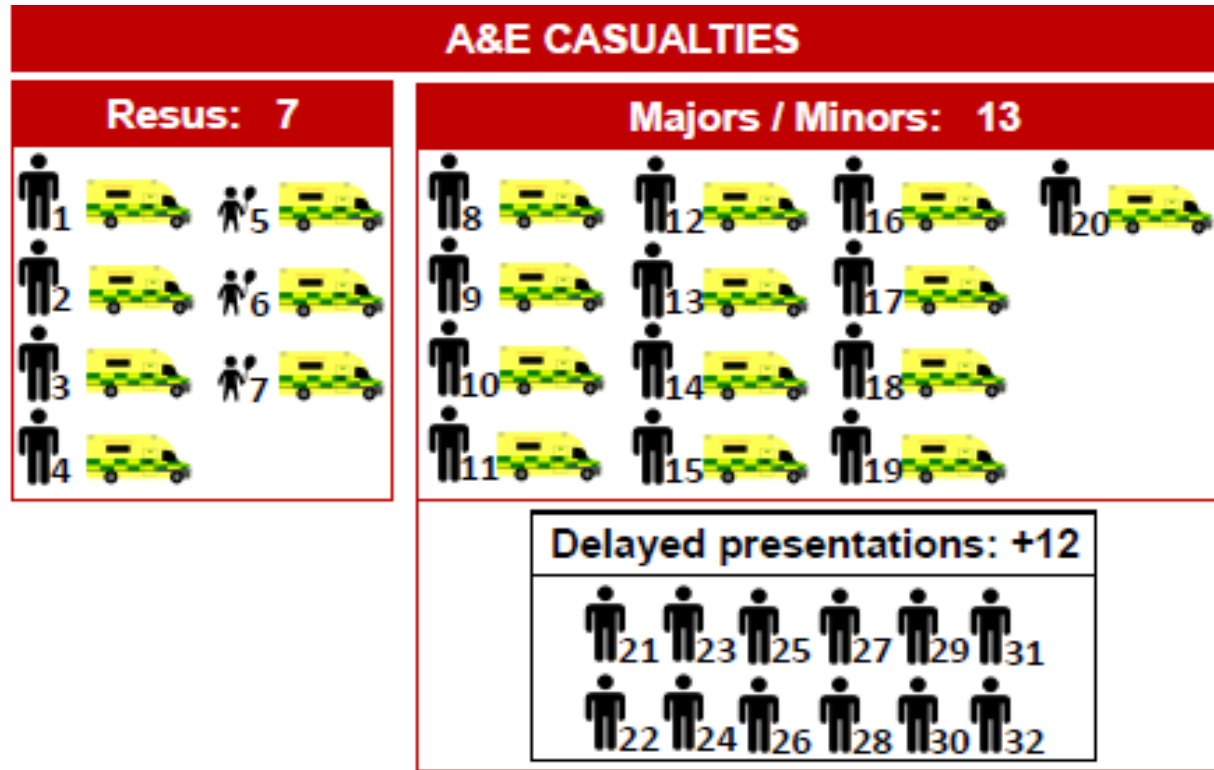


CRITICAL CARE CAPACITY



20 Acute

- 17 adults
- 3 children

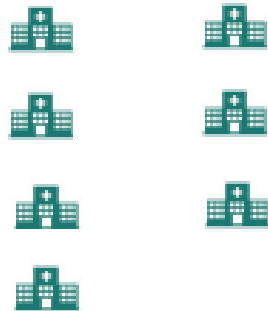


Total Attendances: 32

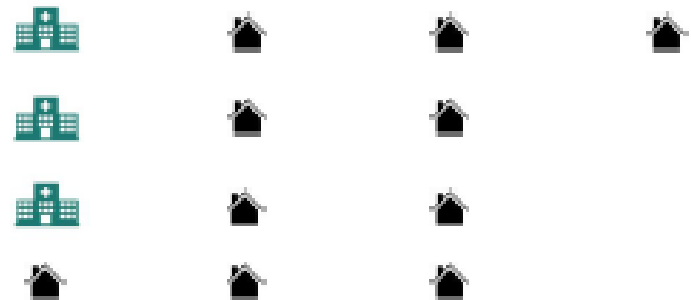


A&E ADMISSIONS

Resus: 7



Majors / Minors: 3



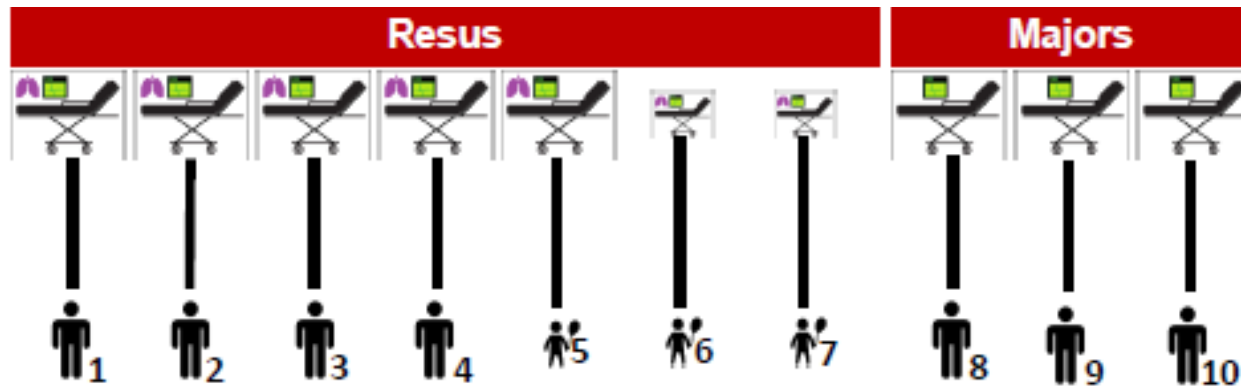
Delayed presentations: 0



10 Admissions

- 6 adults
- 3 children

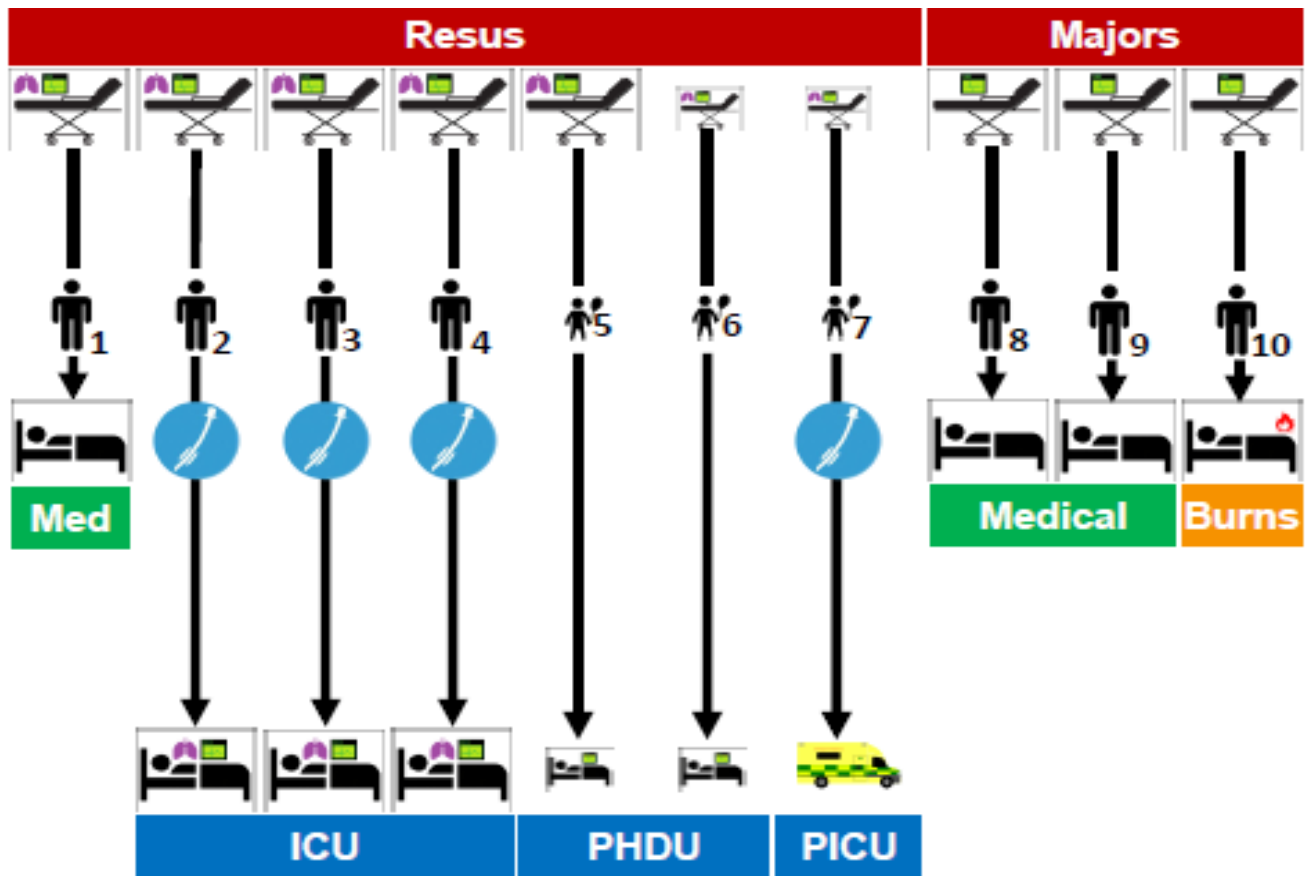


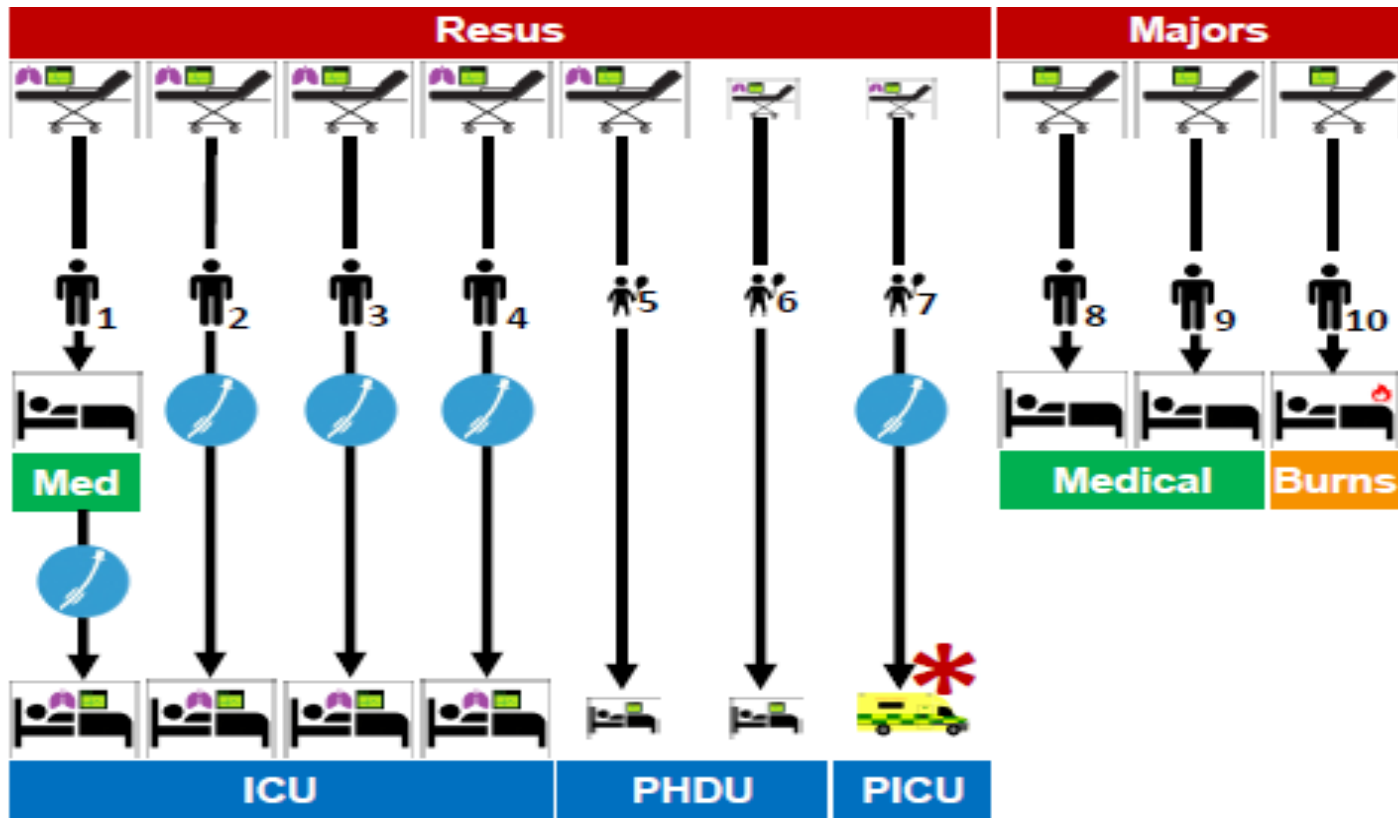


10 Admissions

- 7 adults
- 3 children

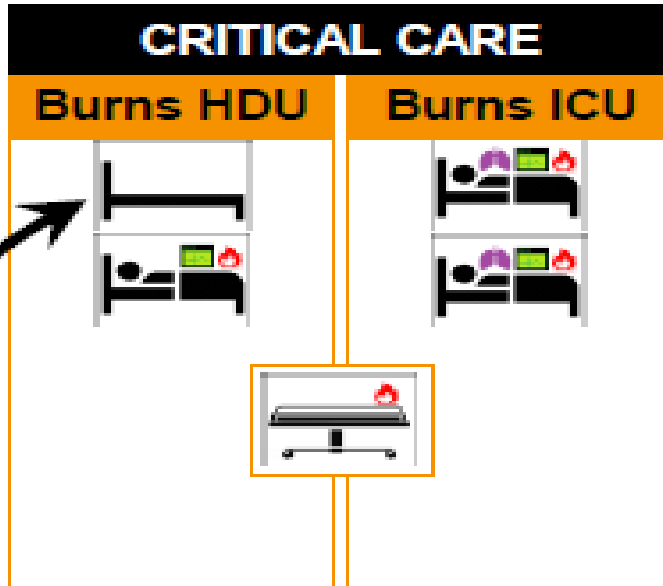






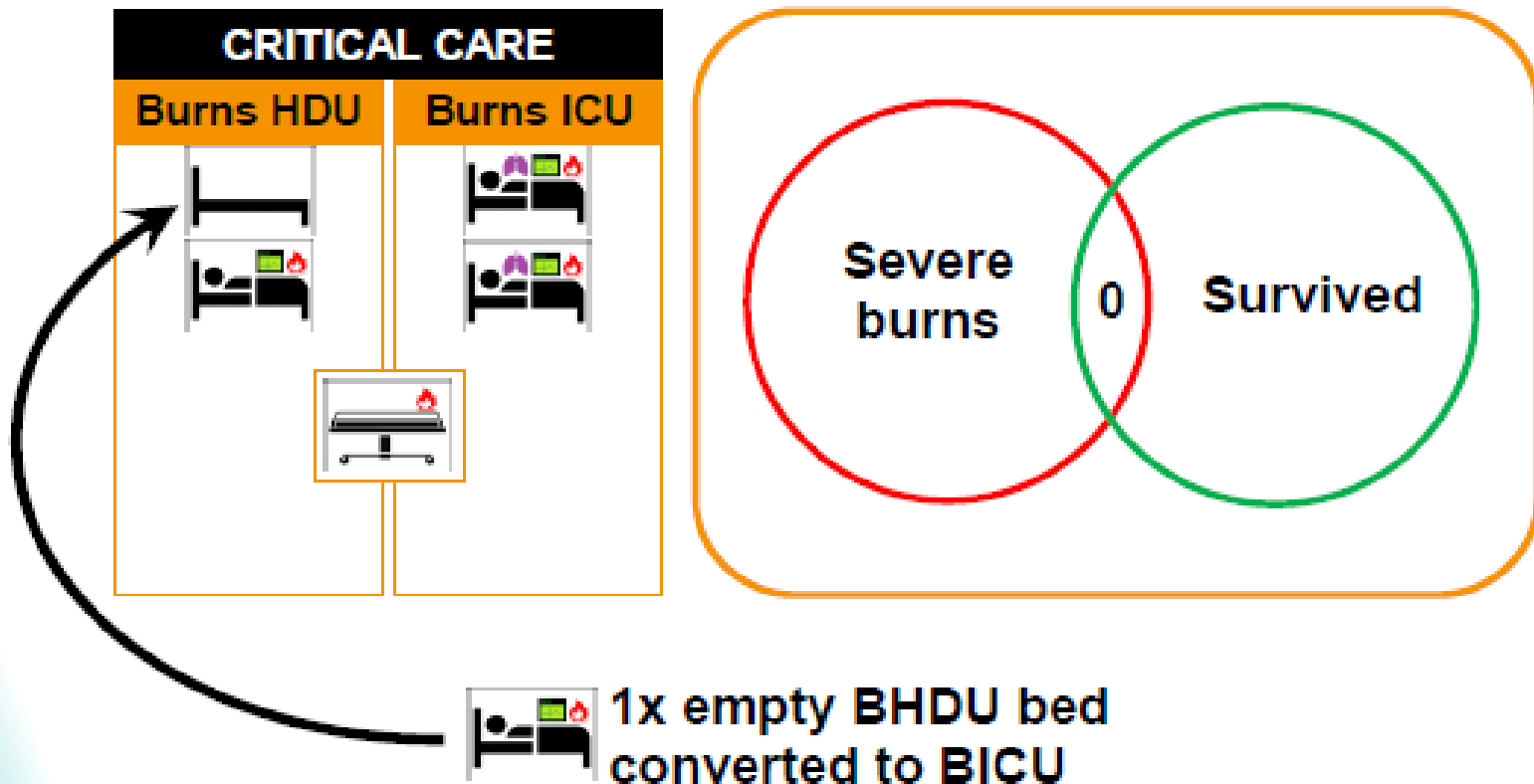
* Four hour wait for CATS

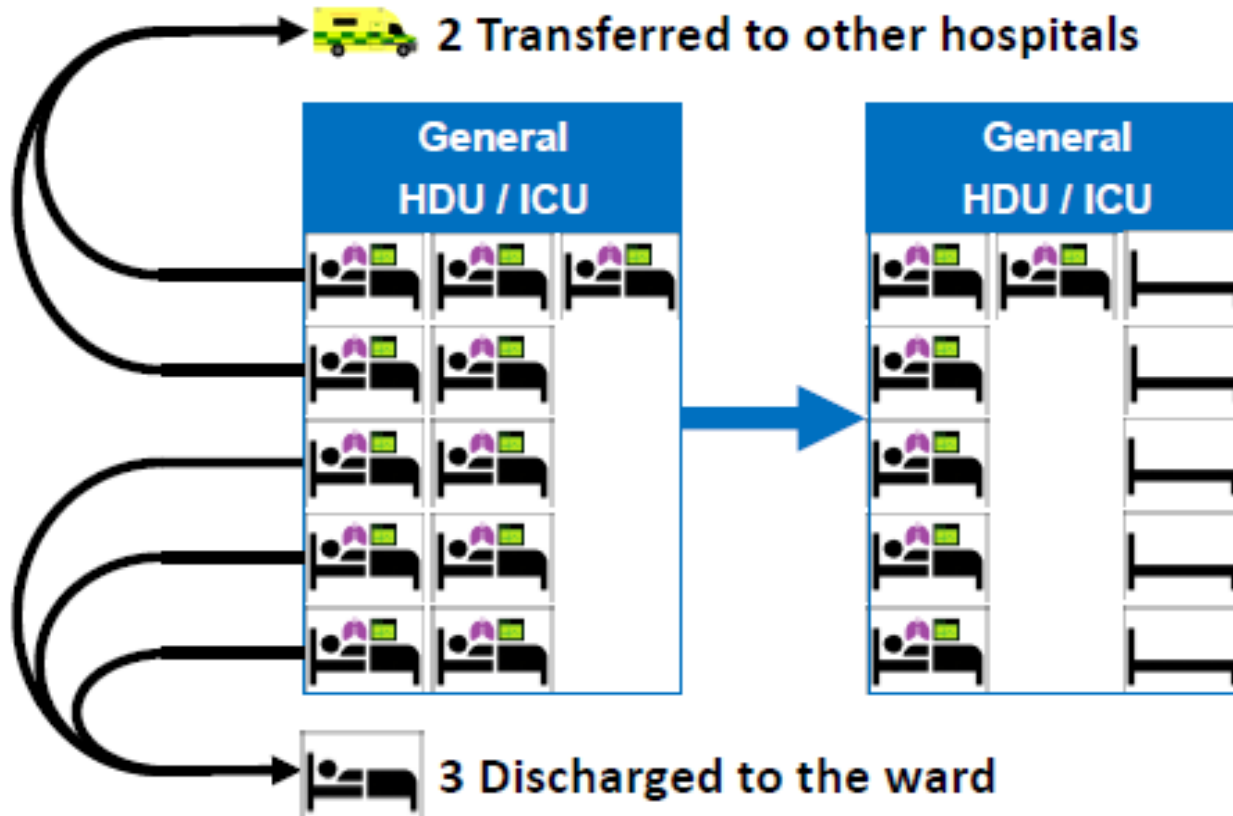




1x empty **BHDU** bed
converted to **BICU**



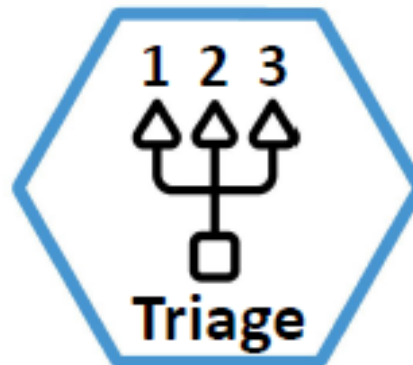




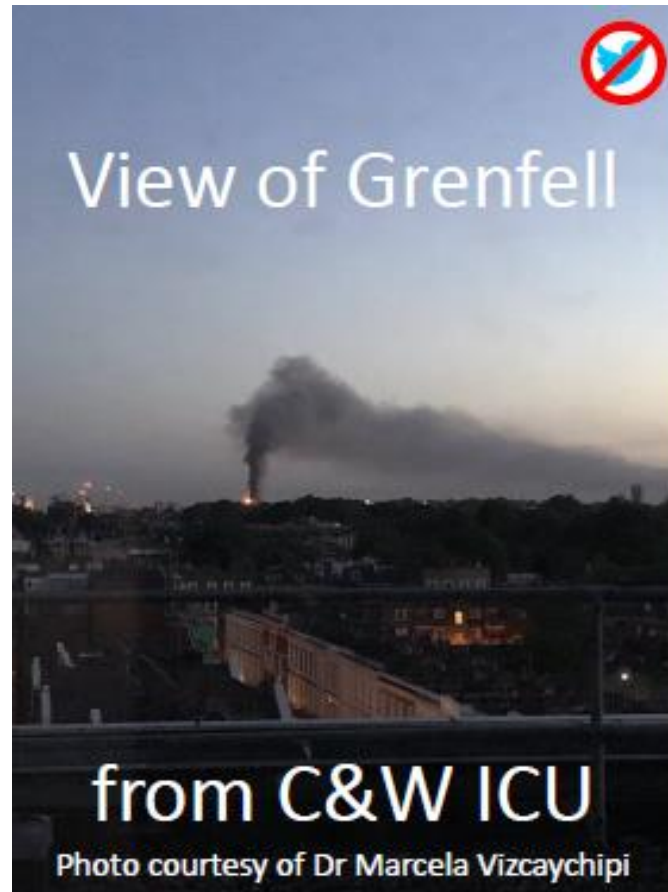
Equipment issues



Facilities and Infrastructure



Any Questions?



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