Challenges in Burn Mass Casualty Incidents

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Burn disaster geography 1990-2000

Casualties 1990-2000

Map based on Longitude (generated) and Latitude (generated). Size shows sum of Casualties. Details are shown for Country.

Casualties

- *: 30
- #: 10,000
- #: 20,000
- #: 30,000
Burn disaster geography 2001 - 2015

Map based on Longitude (generated) and Latitude (generated). Size shows sum of Casualties. Details are shown for Country.

Casualties 2001-2015
Burn Networks
London and South East of England Burn Network:

Surge Capacity Vs Capability

NHS England

Emergency Preparedness, Resilience and Response

Concept of Operations for the management of Mass Casualties (Burns Annex)
Challenges of trauma burn care
Burn Mass Casualty Incidents

• Trauma
• Burn
• CBRN
• Trauma + Burn
• Trauma + Burn + CBRN
Factors known to influence patient outcome

- %Total Burn Surface Area
- Depth of injury
- Anatomical location of injury
- Age of the patient
- Hypothermia
- Co-morbidities and associated injuries


Airway and intubation

Challenges to assessment
Airway Assessment

Position patient to reduce swelling

Sit Patient UP
“Triage” use of intubation, anaesthetic drugs & MV
Intubate early

based on progression of fluid resuscitation and extent of facial/oral oedema

Commence active warming
Consider the consequences

Don’t cut the tube
Give IV Analgesia

Without delay, generously & often
Burn Size Estimation

Challenges to assessment
Palmar Surface
Fluids and formulas

Challenges to calculation
Fluid resuscitation options

- IV crystalloid
  - *Restrict to survivable burns >40%*

- Oral resuscitation
  - *For burns up to 40%*
  - *Oral rehydration therapy with clean water, glucose and electrolytes (accept nausea and vomiting)*
  - *Free water is toxic to patients in burn shock*
    - Hyponatremia, leading to cerebral oedema and death

- Rectal infusion therapy
Administer Burns First Aid

Effective within 3 hours of injury

Treat burns with cold running water for 20 minutes.
Chemical Burns to Eyes

- **Do not delay irrigation** for examination, contact lens removal, or sterile fluid

- **Prioritise eyes in immediate** and copious irrigation with an amphoteric solution, or Hartmann’s, NaCl 0.9%, tap or bottled water

- **Encourage eye opening and blinking** during irrigation

- **Discourage eye rubbing** as this will embed the chemical further
Cover the wound with cling film

Use cling film in a single layer over the burn
Warm the patient

Aim for 38°C – 39°C
Early Contact with Specialist Burn Service

Adult 01342 414440
Child 01342 414469
In Summary

• Burn services are not near & have limited capacity
• Intubate if signs of airway oedema present
• Give IV analgesics generously and often
• Use most familiar method to measure %TBSA
• Avoid formulas for fluids & consider oral hydration
• Clingfilm is best wound cover
• Keep casualty warm and sat up
Patient Centred Approach

Importance of looking at the outcomes of what we do
"Every intervention from the point of injury will influence the scar worn for life."

Fiona Wood
“What you do makes a difference, and you have to decide what kind of difference you want to make.”

Jane Goodall
Thank You!