

Ravenshoe Café Explosion: A North Queensland Health District Review

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The objective of this review was to analyse the quality of burn care provided during the triage response, hospital presentation, and inpatient management in the North Queensland Health district (includes Townsville, Cairns and Hinterland Health Services) for this disaster.

Ravenshoe is a small town 123km south west of Cairns, and on Tuesday June 9th 2015, at approximately 12:00pm, an out-of-control utility ploughed into the rear of the “Serves You Right Café” hitting a large gas bottle triggering an explosion inside the café. This was no doubt a mass casualty incident with 20 people (6x males, 14x females; mean age 59yo vs 49yo respectively) sustaining severe burns requiring urgent hospitalization for medical/surgical treatment.

Burns sustained had a very similar pattern involving the face, chest, back, bilateral upper limbs and dorsum of hands/fingers. Of the 20 patients:

- all reached criteria for a referral to a burns centre
- 2x patients had >60% TBSA
- 7x patients had 20-40% TBSA
- 7x patients were intubated due to airway concerns
- 2x patients deceased
- 5x patients required upper limb escharotomies
- 11x patients required debridement and skin grafting
- 1x patient required pedicled groin flap for coverage of hand

A triage centre was set up on location; however, in retrospect no Mass Casualty Plan or State Health Disaster Plan was activated. This caused delays in the presentations of the most seriously injured patients, with 6x patients airlifted (4x to Townsville Hospital; 2x to Cairns Hospital), all arriving at their respective locations between 1600 and 1800 with plenty of emergency/surgical staff in preparation. The remaining patients were taken by road, with 11x patients driven to Atherton Hospital, and 3x to Innisfail Hospital where there was no specialty cover for burns of this magnitude. This resulted in a first wave of 5x patients, all with life threatening burns being transferred to Cairns Hospital from Atherton Hospital at 2100 when emergency and surgical staff was at a minimum. The majority of these patients were well behind in their fluid resuscitation values, and all had facial burns and oedema requiring airway assessment and monitoring, with 3x eventually being intubated.

During the triage response, burns were managed with Cling wrap, and with continuous assistance and advice from the Royal Brisbane Hospital Burns Unit, dressings were changed to Silver sulfadiazine, Jelonet gauze, and a melolin nonadhesive dressing upon hospital presentation and after assessment of burns. There was a low threshold to perform escharotomies if there was any concern about limb perfusion with the patients who sustained circumferential burns.

11x patients eventually were transferred to the Royal Brisbane Hospital Burns Unit, and the remainders were managed at Cairns Hospital. A burns specialist (Professor Michael Muller) from the burns unit was sent to Cairns Hospital on Day 3 post accident to assist in the assessment and management of the remaining patients requiring debridement and skin grafting.

In hindsight, there was a lot to learn from this disaster. These patients suffered significant physical and psychological stresses that require a multi-disciplinary team to be able to continually manage these patients for optimum care. As this was a large-scale burns incident where a State Health Disaster Plan should have been activated, there could have been the option of opening inter-state transfers to other burns units for patients with life-threatening burns. This could have avoided constant transfers to regional centres with no surgical cover and unnecessary delays in the management of the severely injured.

References:

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