SIMulatED

Royal Darwin Hospital Emergency Department

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# Scenario Run Sheet: Major Burns

## Scenario Overview

**Estimated Scenario Run Time:**  8-10 mins

**Estimated Guided Reflection Time:** 10-15 mins

**Target Group:** ED Registrars and Nurses, ICU and Surgical registrars

**Brief Summary:** 22yo male, occupational petrol fire with 30% BSA flame burns to upper body and airway. Brief prehospital cooling performed (5mins). Assembly of relevant team, generous analgesia and burns assessment. Patient requires initiation of fluid resuscitation, early intubation and referral for bronchoscopy/debridement / dressing in theatre

## Learning Objectives

**General**

Trauma team communication

**Scenario Specific**

Assessment of burn depth and BSA using Lund and Browder chart

Use of Parkland formula for fluid resuscitation

Prioritises generous analgesia in major burns

Knowledge of techniques for cooling burns while maintaining normothermia

Predicts and identifies presence of inhalational burns, plans for early intubation

Seeks and is able to direct echarotomy for circumferential burns

Demonstrates leadership in development of shared management plan between Burns/Surgical team, OT and ICU according to ANZBA principles (burn type, severity and body area affected, referral parameters)

## Equipment Checklist

**Equipment**

Adult Resus trolley and defibrillator / pads

Burns box with cling film, bowls, yellow trauma aprons and trauma labels

**Medications and Fluids**

Giving set, Normal saline

Morphine, Fentanyl, midazolam, ondansetron ;RSI/sedation drugs (M+M)

**Documents and Forms**

Trauma admission chart

Burns management Flowchart

**Diagnostics Available**

CXR – intubated

VBG – mild lactic acidosis, normal COHb

## Scenario Preparation/Later Parameters

**Initial Later**

GCS **14** RR 30 P 130 BP 140/90 GCS **3(T)** RR vent HR 120

Sats 96% RA T 37.8 BSL gas SaO2 98% O2 BP 100/60 T 36.2

**Mannequin Features**

Live standardised patient with moulage for burns to face and upper body, burned clothing with odour

## Participants

**Staff Actors**

ED Registrars x3 Radiographer

Nurses x3ED, Trauma or Burns RN ED Consultant available by phone

ICU and SACU registrars ICU + SACU consultant referral by phone

**Instructor Roles**

- Provide the team with airway signs, VBG, CXR

## Candidate Instructions/Triage Information

You are informed by the triage RN that SJA is 5 mins away with a 22yo male with flame burns to the face and upper body. The fire was thought to be from ignition of leaking fuel while starting a generator at work.

## Patient Instructions

Conscious, in severe distress from facial, chest and arm burns, speaks in gravelly voice

**Medical History**: Fit, no meds, NKDA, ADT 15yo

**Social** Social smoker/drinker. FIFO boilermaker from QLD, lives with housemates

## Proposed Scenario Progression

* Preparation of trauma team, medications and equipment prior to arrival of major burns patient
* Simultaneous assessment /resuscitation with focus on airway burn assessment and consideration of cx spine injury (no blast in this case).
* Identifies inhalational burn (dysphonia, nasopharyngeal stigmata); team plans (+/-performs) early intubation in ED or OT. If intubated, no ventilatory issues and CXR normal
* Establishes appropriate vascular access
* Delivers generous narcotic regime and considers ADT status
* Applies cling wrap and delivers burns cooling to bedbound patient (frequent change of abdo pads in water); Initiates warm fluid resuscitation per Parkland formula; maintains normothermia
* BSA/depth estimates performed per Lund and Browder;
* Seeks circumferential burns, no ED escharotomy required; corneal burn assessment with fluorescein
* Team confers on disposition (ICU v theatre for detailed assessment, scrub and dress)
* Consideration of Workcover issues (debrief)
* Liaison with family and employer (debrief)