SIMulatED RDH Emergency Department - Author: Anna Lithgow/Becky Day

# Scenario Run Sheet: Facial Trauma

## Learning Objectives

**Target Group: ED Regs and Nurses**

**General:**

CRM Principles

**Scenario Specific:**

* Emergent management of facial trauma
	+ Recognition and control of airway obstruction from bony deformity and severe intraoral haemorrhage with intubation, fracture reduction and nasal/intra-oral packing
	+ Consideration of CICO algorithm in airway management
	+ Resuscitation of severe haemorrhage with early ONeg and TXA followed by MTP
	+ Consideration of associated head, cervical spine and dental injury

## Scenario Overview

**Brief Summary:**

22yo male BIBA with severe facial injuries after assault with a cricket bat, causing massive bleeding from nose and mouth. 5 minutes preparation time allows request for Trauma call/MTP + airway preparation/request for senior assistance. Patient walks in, is conscious but hypoxic and agitated. Brisk haemorrhage from displaced midface fractures causes respiratory distress and hypotension, prompting emergent intubation in ED prior to arrival of senior assistance. ETT placement is achieved using facial fracture reduction, dedicated suction by assistant and CMAC larygoscopy. Pre- intubation resuscitation followed by nasal and intraoral packing controls ongoing haemorrhage. Patient stabilised for CT followed by emergency referral to theatre.

|  |  |  |  |
| --- | --- | --- | --- |
| Intro Time | Scenario Time | Debrief Time | Soundbite  |
| 1 min | 20-25min | 20 mins | 10 mins |

## Observers’ Engagement Task

What preparations would you make while waiting for this patient to arrive?

## Equipment Checklist

|  |  |
| --- | --- |
| **Patient** | Sim Man |
| **Monitoring:** | Sim Man |
| **Docs and Forms**  | EDNA, CICO protocol, intubation checklist |
| **Other Equipment** | CMAC, CICO teaching box, intubation laryngoscopeRanger rapid infuserFoley catheter, rapid rino |
| **Consumables** | IV giving set, ONEG blood x2, MTP pack 1 |
| **Medications** | TXA, cefazolin/ceftriaxone + metronidazole |

|  |  |
| --- | --- |
| **Sim Props** | CXR post intubation: aspiration/VBG Hb 100/sputum bag containing 500mLs blood, playdough for facial swelling, denture for fractured maxilla |

## Participants

**Staff: 3 ED Regs and 3 Nurses**

**Instructor Roles: Provide Ix and Exam findings**

**Confederates: Friend**

**HISTORY FROM SJA**

**- 22yo Brad: drinking at backyard party in TIWI. Gate crashers arrived and hosts attempted to eject them. Ensuing brawl – Brad was struck several times to the face and head with brief LOC. Continuous haemorrhage from his nose and mouth but sitting up and self ventilating on route. Refusing spinal precautions en route. No other apparent injuries. No PMHx. SaO2 92% RA but 98 on 8L O2**

## Additional Information/Medical History

**Demographics: Inpex electrician**

**PMH: Nil, UTDWI. NKDA**

**HPC: Friend Dave: “We were just having a few drinks at our place when they just lobbed up, never saw them before, acting like they were on meth. Brad tried to scare them off with a bat but the one with the full arm tattoos got it off him and started smashing him in the face with it! I thought he was going to kill him! He didn’t move for a few seconds but then he sat up moaning with his face SMASHED, blood pissing from his nose and mouth. The cops finally arrived but the bastards had already pissed off!”**

## Proposed Scenario Progression

Patient walks in to resus room. Concommitant SJA handover and primary survey, Trauma call activation.

Patient sitting forward with GCS 14 (V4), severe mid-facial swelling and malocclusion.

Pale + sweaty, brisk haemorrhage from nose and mouth.

Recognition of facial/dental deformity, ongoing nasal/ intra-oral haemorrhage with shock and threatened airway. Notes absence of signs of anterior neck injury.

Calls for senior airway help if not prior

High flow O2, large bore IV access, IV fentanyl, Warmed ONEG blood, TXA

Intubation checklist including CICO rehearsal

MTP activated if not prior; Ranger prepared

Early analgesia

Sudden haematemesis + desaturation followed by respiratory distress and shock provokes intubation in ED: Preoxygenation in sitting position

Ketamine/Sux + MILS, fracture reduction, suctionx2 + CMAC successful.

Secures tube

Posterior + anterior nasal packing + Intraoral packing

Plans for ongoing resuscitation with MTP.

Ensures normothermia

Post intubation CXR identifies aspiration. Avoids NGT due to risk of BOS#.

Decision with SACU/MFU team regarding CT head/face/BOS/Cx spine vs theatre

## Scenario Preparation/Baseline Parameters

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Stage 1 (arrival)** | Progression Trigger | **Stage 2 (haematemesis)** | Progression Trigger | **Stage 3 (ETT/packing/blood)** |
| **RR** | 32 | 40 | 20 vent |
| **SpO2** | 92%RA | 88% 15LNRB | 94% (Fi 1.0) |
| **HR/Rhythm** | 130SR, thready | 150 | 120 |
| **BP** | 90/50 | 70/40 | 110/70 |
| **T** | 37.2 | 36.2 | 35.8 |
| **Other** | Sweaty, pale | Respir distress |  |
|  | GCS 14 (E4) | GCS 12 (E3V4M5) |  |

## Debriefing/Guided Reflection Overview

|  |  |
| --- | --- |
| **Opening Gambit** | **Anticipated themes:****Impending threatened airway**Has anyone managed a case like this?What preparations did you make and why? |
| **Exploration with key players** | What plans were running through your mind when the patient arrive in the bedPreparation for difficult airway/CICO/helpThe patient had a haematemesis, causing aspiration and worsening shock and hypoxia. You proceeded to intubate him. Talk us through your rationale for this and the steps you took in managing this? |
| **Engaging the general group** | What did you have on your preparation list? Was there anything else that you had thought of? |
| **Sharing facilitator’s thoughts** |  |
| **Any other questions or issues to discuss?** | **Cervical spine injury**What was your approach to managing the Cx spine given the history and the primary survey findings? You managed to control the bleeding. What other interventions could have been tried if bleeding was ongoing?Packing with adrenaline/TXA soaked gauzeEmbolisation?Ligation ECA in OT? |
| **Summary** |  |

## The Soundbite

**Brief overview of Le forte fractures**

**CABCDE approach to Resuscitation of severe facial fractures including examination findings of head**

General Feedback Prompts/Examples:

Opening Gambit:

* What did you feel were your specific challenges there?
* Let’s talk.
* Can you describe to me what was happening to the patient during that scenario?
* Can you describe to me what was going on?
* What was important to you in choosing to manage that situation?
* Can you tell me what your plan was and to what extent that went according to plan?
* That seemed to me to go smoothly, what was your impression?
* That looked pretty tough. Shall we see if we can work out together what was going on there so that you can find a way to avoid that situation in the future?

Exploration with key players

* Questions to deepen thinking
* Questions to widen conversation
* Introduce new concepts; challenge perceptions; listen and build
* So what you’re saying is…
* Can you expand on…
* Can you explain what you meant by…
* When you said…
* I noticed that you…

Engaging the general group

* Let’s check with the rest of the group how they reacted to you saying that.
* Did you [scenario participants/observers] feel the same?
* What did you [scenario participants/observers] want from [scenario participant] at that point?
* What ideas or suggestions has anyone else got for how to deal with that situation?

Sharing facilitator’s thoughts

* Use advocacy with inquiry to share your observations and explore their perception
* What does the protocol say on…..
* What do you think was happening ….?
* How do you think … would respond to…. ?
* What about next time…..?
* Do you think there’s anything to be gained from…?

Any other questions or issues to discuss?