| **Scenario:** Case Management – multi trauma | **Patient:** 6 year old Sam | **Simulator**<br><br>**Marvin** |
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| **Case Summary:**<br><br>6 year old boy, pedestrian vs car at a shopping centre whilst crossing the road. Brief LOC, suffering head, abdominal and chest injuries. Deterioration of blood pressure and GCS requiring fluid management and airway control. A co-ordinated team approach based on the skill set of the managing team involves BVM ventilation +/- intubation, blood transfusion and effective communication via phone with senior colleagues. | | **Participant Briefing:**<br><br>BAT CALL<br><br>6 year old boy Ped vs Car<br><br>Head injury with LOC, abdominal bruising<br><br>HR 120, SBP 95, RR 30, GCS 13<br><br>IV access and Collar<br><br>ETA 3 minutes |
| **Clinical Issues** | | **Human factors / Non technical issues** |
| Structured approach to child with trauma<br>Management of paediatric trauma<br>• closed head injury,<br>• pulmonary contusions<br>• liver laceration | | Resource allocation<br>Team communication<br>Communication with child and paramedic. Surgical registrar handover |
| **Learning Objectives:**<br><br>**Communicate** with child & paramedic<br><br>**Demonstrate** a structured assessment of a child with trauma<br><br>**Interpret** findings & manage appropriately<br><br>**Communicate effectively in a team** | | |

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| **Faculty Actors:** Paramedic |
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| **Patient Moulage:**<br><br>Normal clothing<br>Haematoma above left eye, abrasions to face, chest and abdomen<br>Agitated, moaning |

| **Equipment & Props:**<br><br>EdWISE Paediatric box and Manikins | | |
|---|---|---|
| **BAT CALL**<br><br>6 year old boy Ped vs Car<br><br>Head injury with LOC, abdominal bruising<br><br>HR 120, SBP 95, RR 30, GCS 13<br><br>IV access and Collar<br><br>ETA 3 minutes | **Preparation and Planning**<br>Staff – trauma call, allocate roles<br>Patient – calculate weight<br>Equipment – prepare size appropriate<br>Drugs – calculate drug doses appropriate for weight calculated | |

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| Patient presentation | Expected response by participants | Faculty /Actors Notes |
|---|---|---|
| **Initial Presentation**<br><br>Child moaning<br>Airway clear<br>RR 30, air entry sl decreased right side<br>SaO2 92% Room air<br>HR 120<br>BP 90/60<br>Capillary refill 3 sec<br>Temperature 36<br>GCS 13 (eyes open, moaning, moving all limbs spontaneously)<br>Pupils equal & reactive | Accept handover from paramedic<br>Structured approach to assessment using DR ABCDE approach<br>Apply monitoring<br>Apply oxygen therapy and gain IV access.<br>Send bloods including group and hold<br><br>Clear concise communication and effective team work | Paramedic gives brief handover.<br><br>I: 6 year old boy Sam<br><br>M: Struck by car at 40 km/hr at pedestrian crossing, thrown 5metres.<br><br>I: Head injury, haematoma above left eye, bruising to upper right abdo which is tender and tense to palpate, nil other injuries noted<br><br>S: LOC 2 mins at scene, followed by disorientation. RR 30 HR 120 BP 95/65 GCS 13<br><br>T: IV access, C-spine collar<br><br>A: Nil known allergies<br><br>M: Nil regular<br><br>O: Mother en route to hospital |
| **Progression**<br>Becomes unresponsive<br>SaO2 92% on Room air, 99% on O2<br>RR 20<br>HR 160<br>CR 4secs<br>BP 90/60<br>BGL 4.0 mmols | Recognise deterioration and repeat Primary survey.<br>Escalate airway management with BVM and consider need to intubate & call for help if beyond skill set and manage with BVM until appropriate assistance on site.<br><br>IV fluid bolus and arrange blood transfusion.<br><br>Ask for surgical and anaesthetic registrars as not yet arrived. | Paramedic can remain to be extra assistance and provide information regarding tactile components of the scenario and prompt to recognise deterioration.<br><br>Faculty at simulation centre to be voice of help requested. |

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| **Deterioration**<br><br>O2Sats increase to 99% with effective BVM<br><br>HR 180 before 2nd fluid bolus, 140 after<br>CR 5secs before 2nd fluid bolus, 3 secs after 2nd fluid bolus<br>BP 75/55 to improve to 95/60 with fluid bolus<br><br>Decrease in O2 saturations to 88% on RA, 94% on O2<br><br>CXR pulmonary contusions<br>FAST free fluid - RUQ | Continue skill appropriate management.<br><br>Communicate with surgical and anaesthetic staff, NETS team and senior clinicians.<br><br>Arrange transfer to definitive care with surgical capabilities. | If team to intubate the intubation will be uneventful if appropriate doses of induction drugs are given.<br><br>Faculty at simulation centre continue to provide advice on the phone as requested. |
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| **Recovery** | | |

| **Debrief Guide** | |
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| **Key clinical issues**<br>Assessment and management of trauma in the paediatric setting.<br>Access, analgesia and fluid bolus in shocked trauma patient, including indications for blood transfusion.<br>Recognition and response to deterioration. | **Key non technical issues**<br>Planning preparation and trauma team role allocation.<br>Team work and communication.<br>Communication with paramedic and surgical registrar. |

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