RCPCH Endorsed
Royal College of Paediatrics and Child Health
RCPCH Endorsement applies to UK APLS courses only

Advanced Life Support Group
A charity dedicated to saving life by providing training

SIMULATION CASE PST-1

Learning outcomes:

By the end of this simulation the candidates will:

- Apply the structured approach to trauma management
- Apply pelvic and peripheral splints

Simulation focus: Multiple trauma - Fracture right humerus. Right pulmonary contusion with haemothorax. Fractured pelvis and right tibia and fibula

Timing: 0-3 minutes: introduction; remaining time: split equally between simulation and debrief

Introduction [Environment and Set]

Prior to the start of the simulation: one instructor to:

1. [Environment] Brief candidate group to *check the Environment*:

Room	Candidates to set up the room appropriately	
Equipment	Candidates to check required equipment present and accessible	

Equipment list:

In addition to generic equipment list:

- Appropriate size manikin to be ready for simulation in room and covered until simulation commences
- Box / Thomas splints
- Pelvic splint - ***NOTE TO INSTRUCTORS*** Pelvic splint in situ on child manikin applied too high.
- Chest drain kit

2. [Set] Give *History*

A 12-year-old girl, Polly, walked out from behind a bus and was hit by a motorcycle. A passer-by told the ambulance crew that she had been thrown about 20 feet along the street. She is agitated and uncooperative.

Then leave the room for candidate group to prepare and after 2 minutes, return with instructor team and commence simulation

[Dialogue] Simulation

Initial handover *{to tell candidate on your arrival with the child as a Non-Paramedic SBAR to Team Leader}*

Situation	Fracture	
Background	A 12-year-old girl walked out from behind a bus and was hit by a motorcycle, she had been thrown about 20 feet along the street. She is agitated and uncooperative.	
Assessment	A	patent
	B	RR 35, sats 92%
	C	Pulse 120. BP 90/60.
	D	Drowsy, agitated and uncooperative. Pupils equal and reactive
	E	Right lower leg and pelvis splinted
Recommendation	Needs resuscitation	

Clinical course *{to be given as the simulation progresses}*

Polly stabilises with oxygen, and a fluid bolus. Subsequently respiratory function deteriorates as the haemothorax enlarges. Blood or a second fluid bolus (if not available) and chest drainage are necessary.

Key treatment points

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Preparation	Call Trauma team		
	Briefing and allocation of roles		
Airway & C-Spine	Establish airway patency		
	Protect cervical spine		
Breathing	High flow oxygen via face mask		
	Chest drainage		
Circulation	Early IV access with wide bore cannulae prior to chest drainage		
	Trauma bloods including blood for crossmatch		
	IV Initiate major haemorrhage protocol; PRBC-FFP-Platelets 1-1-1 10 ml / kg aliquots – warmed / rapid infuser		
Specific therapy	Trauma imaging		
	Consider pain relief		
Handover to PICU Consultant	S		
	B		
	A		
	R		

[Closure] Debrief

Using the learning conversation, carry out the debrief of both the technical and non-technical elements of the simulation.

The debrief will be for the team as a whole and should focus on some or all of the following:

- Technical skills in an A, B, C, D, E format and guided by the KTPs; in particular the safe and effective demonstration of all continuously assessed skills:
  - BLS
  - Defibrillation
  - Airway management
- Non-technical skills, including qualities of team membership and leadership:

Team members	• Clear communication • Respect • Flexibility • Assertiveness • Ability to listen
Team leaders	All of the above, plus • Full overview of all aspects associated with child, parents and team • Prioritises according to KTPs • Summarises and re-evaluates

- Feedback on Environment, where required

Potential issues that may be raised for this specific simulation

Approach to ill-fitting pelvic binder

At the end of the debrief, give the opportunity for candidates to ask questions, answer these and then summarise the key points.

Discussion Points:

- Overall guidance for the approach to primary survey/initial oxygen is to give oxygen if there is evidence of hypoxia (low saturations) and then to aim for saturations of 94-98%.

Assessment

Refer to the *Instructor guidance on simulations* document for a guide to the assessment of the simulation station. These assessments should be documented on the paper-based or electronic system for the final faculty meeting. Any scores of *serious concern* should be reported immediately to the course director.