

## Demonstration: Trauma Scenario

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### Key Teaching Objective

To demonstrate a trauma scenario and emphasise the following:

- <C> ABCDE/primary survey approach to injury
- Teamwork
- Supportive learning conversation

### Equipment Required

Resusci junior x 1  
Monitor-defibrillator with paediatric pads x 1  
ALSI unit x 1  
Collars/sand bags  
Paediatric emergency medication book

### Airway & Breathing

Oropharyngeal airway sizes 50mm, 60mm, 70mm, 80mm.  
Endotracheal Tubes 2.5 uncuffed, 3- 6 mm (un)cuffed (in 0.5mm steps)  
Laryngoscope: adult curved blade  
Laryngoscope: straight paed blades  
Paediatric Magill Forceps  
Yankauer Sucker  
Soft Suction Catheters  
Oxygen Masks with reservoir  
O<sub>2</sub> tubing  
Self inflating bags & reservoir: 500ml; 1,600ml  
Face Masks circular 01,1,2; anatomical 2,3,4  
SpO<sub>2</sub> probe & Capnometry  
Bougies and introducers  
Stethoscope

### Circulation

Intravenous cannula 14-25g	EZ-IO drills
Syringes 5ml x 2, 20ml & 50ml x 1	Intraosseous infusion needles 14 and 18g
IO manual	IV solution 0.9% Normal Saline
Tape	BP Cuffs
Pelvic binder	

### Disability

Glucose stick bottle	Pen Torch
Sharps Bin	Blanket

## **Environment**

The room should be large enough to accommodate the instructors and equipment and ensure that all the candidates have a good view. Place equipment at an angle to facilitate the audience's ability to view the demonstration; with the instructors facing the audience. Plan for use of white board & use of <C> A B C D E etc to guide preparation

## **Personnel required:**

5 instructors to carry out the demonstrations in the following roles:

Instructors by 2

Team leader

Assistants

## **Instructor:**

Introduces the format of the demonstration then plays the role of the instructor.

As this demonstration is before the scenarios, in the set, emphasise that the demonstration is what will be expected of candidates during the cardiac simulations. *"The trauma scenarios provide an opportunity to use the information and skills from the pre course online learning and the provider course in a clinical context. Each candidate will take on the role of "hands-on team leader" which differs to the usual "hands off team leader" familiar to you clinically and in other simulation formats. The "hands on team leader" teaching model is used by APLS to optimize individual learning and to simulate potential practice models in resource challenged areas. We encourage you to take an active role in assessing and managing the patient. A learning conversation will follow where the candidate and the group can reflect on the scenario and implications for clinical practice."*

Allow time for a learning conversation and give the candidates an opportunity to ask questions.

**Please see next page for Demonstration Dialogue** (laminated copy will be in face to face course kits)

## **At the end of the scenario:**

Lead learning conversation

Terminate demonstration

## **Closure**

Invite questions

Summarise and close

## Demonstration: Trauma Scenario

### Set, Instructor:

Instructor reads the case to the person who is a hands-on team leader (- note, remind candidates that this not like in the morning SEAM workshop)

Candidate repeats scenario back to assistants. Whiteboard calculations with support from team and use of medication book.

### History *{initial candidate briefing prior to arrival of child}*

An 8 year old boy collided with a bus when he rode his pushbike straight out of a side road into the main road. He immediately started screaming in pain. Ambulance officers noted a deformed right thigh with a laceration and a moderate amount of blood on the ground. On route to the hospital he received inhaled methoxyflurane and became quiet, only opening his eyes to voice.

Estimated weight 25 kg

### Initial impression *{provide information as candidate assesses child and applies monitoring}*

HR 140, BP 100/65, CRT 5, RR 35, SpO<sub>2</sub> 93% in air. Responding to voice by groaning and complaining of pain. He has an abrasion on his right flank. There is a blood-stained dressing on his right thigh. A cervical collar is in place. Pelvic binder in situ.

### Clinical Course *{to be given to candidate as they progress}*

His airway remains patent with good air entry bilaterally. O<sub>2</sub> sat improves to 99% with high flow O<sub>2</sub> via face mask. There is improvement following 2 x 10ml/kg boluses of warmed crystalloid or blood, then a 5 ml/kg bolus of blood or FFP. Urgent surgical consultation a priority.

## INSTRUCTORS INFORMATION

### Key Treatment Points

<C>		<input checked="" type="checkbox"/>
	Assess for and control external bleeding	
<b>Airway &amp; C-spine Breathing</b>	Establish airway patency	
	Protect cervical spine	
	High flow O <sub>2</sub> via face mask commenced early	
	Titrate O <sub>2</sub> therapy to SpO <sub>2</sub> 94-98% when stable	
<b>Circulation</b>	IV access with wide-bore cannula x 2	
	Blood for cross-match etc	
	Early use of blood & 15 mg/kg tranexamic acid	
	Massive transfusion protocol	
<b>General Therapy</b>	Arrange for urgent surgical review	
	Analgesia	
	ICU/Retrieval/Ortho consult	
<b>Diagnosis</b>	Ruptured Liver, compound fracture right femur	

## **INSTRUCTORS INFORMATION**

If the child with major haemorrhage has not responded to the initial bolus of 10 ml/kg of crystalloid, then the early use of blood and tranexamic acid should be considered. The next two fluid boluses are 10ml/kg of warmed O negative blood, if available, or warmed 0.9% saline

A major transfusion protocol should commence if shock persists, comprising of boluses of 5ml/kg warmed blood plus appropriate blood products.

## **Application of cervical immobilisation devices**

Due to limited evidence and current variation in practice around Australia and New Zealand, there are several options for maintaining cervical immobilisation. Forms of immobilisation may include semi-rigid cervical collars and fitted 2 piece collars. Particularly in the case of extrication and transport, vacuum mattresses and head blocks may be used. All forms of mechanical immobilisation have potential risks associated with their use including airway compromise, obstructed venous return, paradoxical movement of the cervical spine and pressure necrosis. Healthcare providers need to be familiar with local protocols regarding appropriate use of cervical immobilisation devices.