

Demonstration: Trauma Scenario

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

O₂ tubing

Self inflating bags & reservoir: 500ml; 1,600ml

Face Masks circular 01,1,2; anatomical 2,3,4

SpO₂ 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, SpO₂ 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. O₂ sat improves to 99% with high flow O₂ 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>	Assess for and control external bleeding	
Airway & C-spine Breathing	Establish airway patency Protect cervical spine High flow O ₂ via face mask commenced early Titrate O ₂ therapy to SpO ₂ 94-98% when stable	
Circulation	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	
General Therapy	Arrange for urgent surgical review Analgesia ICU/Retrieval/Ortho consult	
Diagnosis	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.