

Trauma SAQ 2016

You are in a **Rural** Emergency Department, when you receive pre-notification of a 24 year old Male involved in a motorbike Accident, with Primarily Right Abdominal and Pelvic injuries. His vital signs: **GCS 15 HR 130 BP 75/45 SaO2 98%** on room air **RR 24** and **Temperature 35** degrees.

The estimated time of arrival is 10 minutes.

a) List four (4) important preparations you would undertake prior to his arrival.(4 marks)

<ul style="list-style-type: none"> • Call Trauma Call <ul style="list-style-type: none"> - (Access Surgeons and Anaesthetics –at a minimum) - notify theatre
<ul style="list-style-type: none"> • Notifications : <ul style="list-style-type: none"> - Call Blood Bank –initiate Massive Transfusion Protocol (obtain MTP pack ASAP) - Notify Radiology (bedside imaging and CT) and access Emergency department
<ul style="list-style-type: none"> • Resuscitation / Trauma Cubicle
<ul style="list-style-type: none"> • Delegate Roles (Airway ; Procedures-IV access) for Medical and Nursing Staff
<ul style="list-style-type: none"> • Access important Equipment : <ul style="list-style-type: none"> - Airway/difficult airway equipment - bedside ultrasound - blood warmer / level one transfuser • Access drugs / fluids : eg. Fentanyl / ketamine ;

On arrival, The patient's vital signs remain the same, despite administration of 2 litres of normal by the Ambulance Paramedic . He is alert and complains of severe right lower abdominal and pelvic pain.

b) List four (4) initial management priorities in managing the patient's injuries (4 marks)

<ul style="list-style-type: none"> • Primary Survey : Ensure Airway / Breathing stable (<i>give oxygen</i>) and immobilize Cervical spine
<ul style="list-style-type: none"> • Ensure / Establish bilateral large bore IV access and pathology
<ul style="list-style-type: none"> • Pelvic binder
<ul style="list-style-type: none"> • Bedside imaging : CXR and pelvic XR • Aim to determine Source of bleeding : Perform eFAST
<ul style="list-style-type: none"> • Give blood – utilize Haemostatic resuscitation approach <ul style="list-style-type: none"> - minimal crystalloid Massive Transfusion Protocol: 1:1:1; PRBC : FFP:Platelets • Urgency and type of blood dependent on blood pressure and VBG Haemoglobin) <ul style="list-style-type: none"> - Utilise Permissive hypotension
<ul style="list-style-type: none"> • Address analgesia (titrated increments of fentanyl 25 Ug IV 2-3 minutely) – or ketamine increments 10-20 mg IV

The eFAST examination is negative and his CXR is normal
His Pelvic X-ray is shown in the Prop Booklet, Page 15

c) List three (3) relevant findings in his Xray (3 marks) .

<ul style="list-style-type: none"> • Widened Pubic symphysis (diastasis)
<ul style="list-style-type: none"> • Widened Right SI joint
<ul style="list-style-type: none"> • No pelvic Binder ***
<ul style="list-style-type: none"> • Likely AP compression Injury

d) List Four (4) important priorities in management of his shock (4 marks)

<ul style="list-style-type: none"> • Pelvic binder (if not earlier)
<ul style="list-style-type: none"> • Continue Haemostatic resuscitation
<ul style="list-style-type: none"> • Prepare for Damage Control Surgery (Pelvic packing) ** Note : Rural Setting
<ul style="list-style-type: none"> • Actively prevent Lethal Triad <ul style="list-style-type: none"> - Hypothermia - Acidosis - Coagulopathy
<ul style="list-style-type: none"> • Tranexamic Acid 1G IV Stat over 10 minutes – then 1G over 8 hours [Crash-2)
<ul style="list-style-type: none"> • Seek other causes for hypotension <ul style="list-style-type: none"> - repeat efAST - ECG-cardiac injury - Consider Neurogenic shock
<ul style="list-style-type: none"> • Involve Retrieval Services early For Major Trauma Transfer when appropriate)

e) List two (2) physiological and three (3) pathological aims of resuscitation / massive transfusion in this patient (5 marks)

A. Physiological :

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|---------------------------------------|
| 1. MAP > 65 - SBP > 80 mmHg |
| 2. Temperature > 35 degrees |

B. Pathological :

- | |
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| <ul style="list-style-type: none">• pH > 7.2• Base excess < -6• Lactate < 4 mmol/L• iCa²⁺ > 1.1 mmol/L• Platelets > 50 [> 100 if intracranial bleed]• INR < 1.5• Fibrinogen > 1.0 g• Hb > 80 |
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State the definition of **Massive Transfusion** for (2 marks)

1) Adults

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| <ul style="list-style-type: none">• Replacement of > 50% of blood volume in 4 hoursOR• Replacement of entire blood volume [70 mL/kg] in 24 hours |
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2) Children

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| <ul style="list-style-type: none">• Transfusion of > 40 mL / kg
(Paediatric blood volume approximately 80 mL/kg) |
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