

Fellowship questions – Resusc, Cardiac, Shock Management

SAQ 1

A 17 yo male is brought into your rural ED following a high speed MVA. He is hypotensive and tachycardic. You are struggling with access.

- a. Give three options for gaining access in this patient, with a pro and con for each.

Access option	Pro	Con

- b. You arrange transfer to the nearest tertiary centre (four hours away by flight) and consider hypotensive resuscitation as an option. What is the proposed pathophysiological benefit of hypotensive resuscitation in trauma patients?
- c. For this patient, list four reasons why hypotensive resuscitation is not appropriate.
- d. You manage to place an IO in the medial tibia and extract bloods for pathology. Circle which of the following tests from an intraosseous sample will be equivalent to those from a normal venous sample.

Hb WCC Na K glucose HCO₃ pH CO₂ O₂ blood group

SAQ 2

A 23 yo male is BIBA after being involved in a street brawl nearby. He is GCS 6, BP 90/60, HR 125bpm. His main injury is shown (image). He is also bleeding profusely from a deep laceration to the left upper arm.



- Immediate blood loss from chest tube of ____ml
Loss of ____ml per hour for ____ hours after chest drain insertion.

A 70-year-old male presents to your community ED with 24 hours of chest pain. The pain is similar to that he had 12 months ago with an MI, for which he had thrombolysis. He is on aspirin and clopidogrel. His ECG today shows a new anterior MI.

- a. List 8 contraindications to thrombolysis in acute MI.

- b. For this patient, give a pro and con for each of the following management options for his acute MI.

Thrombolysis

Pro:

Con:

Percutaneous coronary intervention

Pro:

Con:

- c. You decide to administer thrombolysis to this patient pending transfer to a tertiary centre. Give the drug, dose, and administration details below.
- d. Half an hour into thrombolysis, your patient complains of a headache and an inability to use his smartphone as his right hand won't move. List five management steps you will immediately undertake.

SAQ 4

A 36 year old skier is brought to ED by rescue paramedics. He had been found unconscious in a wooded area of the ski field. On arrival, he has a BP of 110/70, HR of 55 (irregular). He is localising pain, opening his eyes to voice, and is confused.

- a. What is his GCS?
- b. List five differential diagnoses for his presentation.
- c. His core temperature is 26°C. You diagnose likely hypothermia with no other significant injury. Complete the following table of rewarming options with rate of rewarming expected in each method.

Technique	Temperature rise per hour (°C)
Endogenous warming (warmed IVT)	
Forced air warming device (Bair Hugger eg)	
Peritoneal lavage	
ECMO	

- d. Complete the following regarding CPR in hypothermic patients.

Continue CPR until temperature ____ °C unless _____

Main therapeutic intervention: _____

Defibrillate VF/VT only if temperature > ____ °C

ALS drugs – administer after temperature reaches ____ °C

The interval between drugs should be _____ until temperature reaches °C.

SAQ 5

A 2 year old child presents by ambulance with 50% burns TBSA to the lower half of the body only, sustained an hour ago. First aid was provided by SAAS on arrival at the scene, and the child was intubated prior to transport. She is taken to resuscitation on arrival.

- a. Describe the fluid requirements of this child, showing calculations where appropriate.

- b. IV access is difficult, so an IO is inserted. List 5 complications of IO access.

- c. Briefly outline the method of IO access in this child.

- d. List 6 indications for transfer to a burns unit in any burns patient.

- e. List two other management options required in this particular case.

SAQ 6

A woman presents to your ED at 130am in the second stage of labour. A precipitous delivery ensues with rapid delivery of a male neonate. The baby is blue and floppy.

- a. Outline your immediate resuscitation of this child.
- b. What are the components of the APGAR score?
- c. Complete the following table regarding ALS doses used in children.

Drug/intervention	Dose/kg
Defibrillation	
Adrenaline	
Atropine	
Bicarbonate	
Adenosine	
Fluid bolus (normal saline)	
Magnesium	