SAQ 2

a. Name composition of normal saline and Ringer's lactate (2marks)
b. What are the targets to titrate fluid therapy (4 marks)
c. What are the complications of fluid therapy (4 marks)

SAQ 2 Answers

1.

Normal Saline – Sodium 154 mmol,CL 154, K+ 0, Ca++ 0

Hartmann's – Sodium 131mmol, Chloride 111mmol, K+ 5mmol, Ca++ 2 mmol, Lactate 29mmol

2. Any 4 from the following -

Physiological – SBP 90, MAP > 65mmHg, HR <100

Perfusion – UOP > 0.5ml/kg/hour, Lactate <2mmol, resolving base deficit, Cap refill < 4s

Invasive measurement – CI >2.5 L/min/m2, PAOP > 15 mmHg.

3. Any 4 from the following -

Hypothermia after large volumes of fluid therapy

Coagulopathy due to dilution

Tissue oedema – limb and abdominal compartment syndrome

Pulmonary oedema

Hyperchloraemic acidosis with NS

Anaphylaxis to synthetic colloids /blood transfusion

SAQ 3

1) List 4 indications for endotracheal intubation (4 marks)

2) List 2 indications for non-invasive ventilation (1 marks)

3) List 4 contra-indications to NIV (2 marks)

4) What is the mechanism of action of NIV? (3 marks)

SAQ 3 Answers

1) List 4 indications for endotracheal intubation (4 marks)

To create and airway

To maintain an airway

To protect an airway

To provide for mechanical ventilation

From Cameron, Textbook Adult Emergency Medicine 2009, p 20

2) List 2 indications for non-invasive ventilation (1 mark – 0.5 each)

Acute pulmonary oedema

Respiratory failure (will accept COPD as alternative)

Cameron, p21

3) List 4 contra-indications to NIV (2 marks – 0.5 each)

Coma

Combative patient

Inability to tolerate tight-fitting mask

Lack of trained staff to institute and monitor NIV

4) What is the mechanism of action of NIV? (3 marks)

Controlled FiO2 at set positive pressure –

Recruits alveoli that were closed improving VQ match

Increases pulmonary compliance, decreasing work of breathing

SAQ 4

A 72 year old diabetic female is brought to your Emergency Department by ambulance. She complains of feel generally unwell for the last 2 days with abdominal pain, cough and fevers.

Vitals signs:	Pulse	121
	BP	89/58
	RR	28
	Sats	89% Room Air
	Temp	39.8 °C

a. List the key steps in this patients management ? (3 Marks)

b. List your resuscitation goals for the first 6 hours ? (4 Marks)

c. The patient requires inotropic haemodynamic support. Which inotrope should be used ? (1 Mark)

d. The patient is intubated for respiratory failure. List the four key components of your ventilation strategy for this patient ? (2 Marks)

SAQ 4 Answers

a)

Resuscitation - 1/2 Mark
Screening / diagnosis e.g. blood cultures / biochemistry etc. - 1/2 Mark
Antibiotics - broad spectrum cover required - 1 Mark
1/2 Mark each for any two of:
- *Source Control*
- *Monitoring*
- *Disposition*
- *Boundary of Care*

b)

1 Mark each up to 4 marks from:
- *CVP 8-12 mmHg*
- *MAP >65 mmHg*
- *Urine output >0.5ml/kg/hr*
- *Central venous sats >70% or mixed venous sats >65%*
- *Lactate clearance*

c)

Noradrenaline - 1 Mark

d)

1/2 Mark for each of :

Tidal volume 6ml/kg
Plateau pressure <30 cm H_2O
PEEP Titrated to FiO_2 Minimum 5 cm H_2O - Maximum 24 cm H_20
FiO_2 Titrated to Sats 88-95% or PaO_2 55-80 mmHg

Answers taken from Surviving Sepsis Campaign International Guideline for Management of Severe Sepsis and Septic Shock 2012 and ARDSnet NIH NHLBI ARDS Clinical Network Mechanical Ventilation Protocol Summary

SAQ 5

A55 year old woman presents by ambulance. This is her appearance upon arrival in ED

a) List three differential diagnoses

b) List 5 features of her medical history that are particularly important to enquire about

c) State your first 5 management steps

SAQ 5 Answer

a) Angioedema, Anaphylaxis, Trauma (haematoma)

b) Allergy history, medication history, family history of similar events, previous episodes and how managed

c) Resus with full monitoring, Adrenaline neb(5mg) and/or IM (.3-.5mg), urgent airway call (anaesthetics/ICU), difficult airway and surgical airway kit at bedside, optimise current airway by positioning, IV access, supplemental O_2 if hypoxia