22.1 Monash Health practise SAQ

Soon after arriving for morning handover, you are asked to assist with a 68-year-old previously independent female who presented 90 mins ago with septic shock thought to be urinary related. She has received appropriate antibiotics and 1.5 L of intravenous fluid but remains hypotensive. She has now developed tachypnea and hypoxia.

On your arrival in the resuscitation room the patient's current vital signs are:

GCS	14 (confused)
HR	108 bpm
BP	80/50 mmHg
SaO_2	86 % on 15L oxygen via NRM
RR	34

The team feels she requires intubation to facilitate further management.

Past Medical History: Severe Rheumatoid Arthritis, Congestive Cardiac Failure, Chronic Renal Failure

Medications: Methotrexate 10 mg weekly Prednisolone 5mg daily Frusemide 20 mg mane

a. Outline 6 factors would influence your decision on the timing of intubation for this patient? (6 marks)

Prioritises medical optimisation (oxygenation, haemodynamic support) before intubation
- Indicates that patient needs to be resuscitated prior to induction/intubation

Identifies variables that would impact timing of intubation
- Presence of airway threats to patency
- Conscious state, agitation,
- Fatigue ventilatory drive/adequacy
- Response to therapies given to date
- Efforts made to optimize patient to date and room for further optimization/resuscitation
- Team readiness/ availability of back up, determination of intubation strategy

Absolute indications: Apnoea or loss of airway patency (ie recurrent vomiting, non-clearance of secretions, cardiac arrest)

identifies optimal situation eg Sats >90%, SBP >90

answers need to Identify important variables impacting timing of intubation with at least one
- Example of an airway threat
- Example of worsening ventilation
- Immediate indication

You decide to intubate the patient. The vital signs are unchanged.

b. Outline 4 strategies that address the anatomic challenges present in this intubation (4 marks)

- For Impaired neck mobility/ risk of harm from manipulation of neck in patient with RA/limited mouth opening:
  - Use of hyper-angulated blade,
  - patient position (eg: ear to sternal notch, pillows etc),
  - video laryngoscope
  - use of external laryngeal manipulation/BURP
- Inability to lie flat (APO):
  - Induce in sitting position
  - use of CPAP, bilevel PAP as strategy for preoxygenation

c. Outline 8 treatment strategies that address the physiologic challenges present in this intubation

(8 marks)

Pre-oxygenation: Continues NIV or assisted BVM throughout apnoeic period
Avoidance of desaturation: Active oxygenation throughout intubation with high flow nasal oxygen
Hypotension: need to adapt standard RSI treatments specific to identified severe abnormalities in circulation
- Reduced dose induction agent
- Choice of induction agents safe for septic shock – ketamine and/or fentanyl
- Push-dose or infusion of vasopressor/inotrope (adrenaline or metaraminol) at induction for haemodynamic support
- Steroid Supplementation (IV Hydrocortisone) given long-term steroids

Acidosis: Ventilates through induction to avoid worsening acidosis
Risk of Hyperkalaemia: Avoids suxamethonium
Pulmonary Oedema:
- Use of PEEP, NIV to improve oxygenation (may be covered in b)
- avoidance of additional fluids

Results

10/18 pass

25/40 achieved 10 or more ~62%

Most marks lost through not answering this question