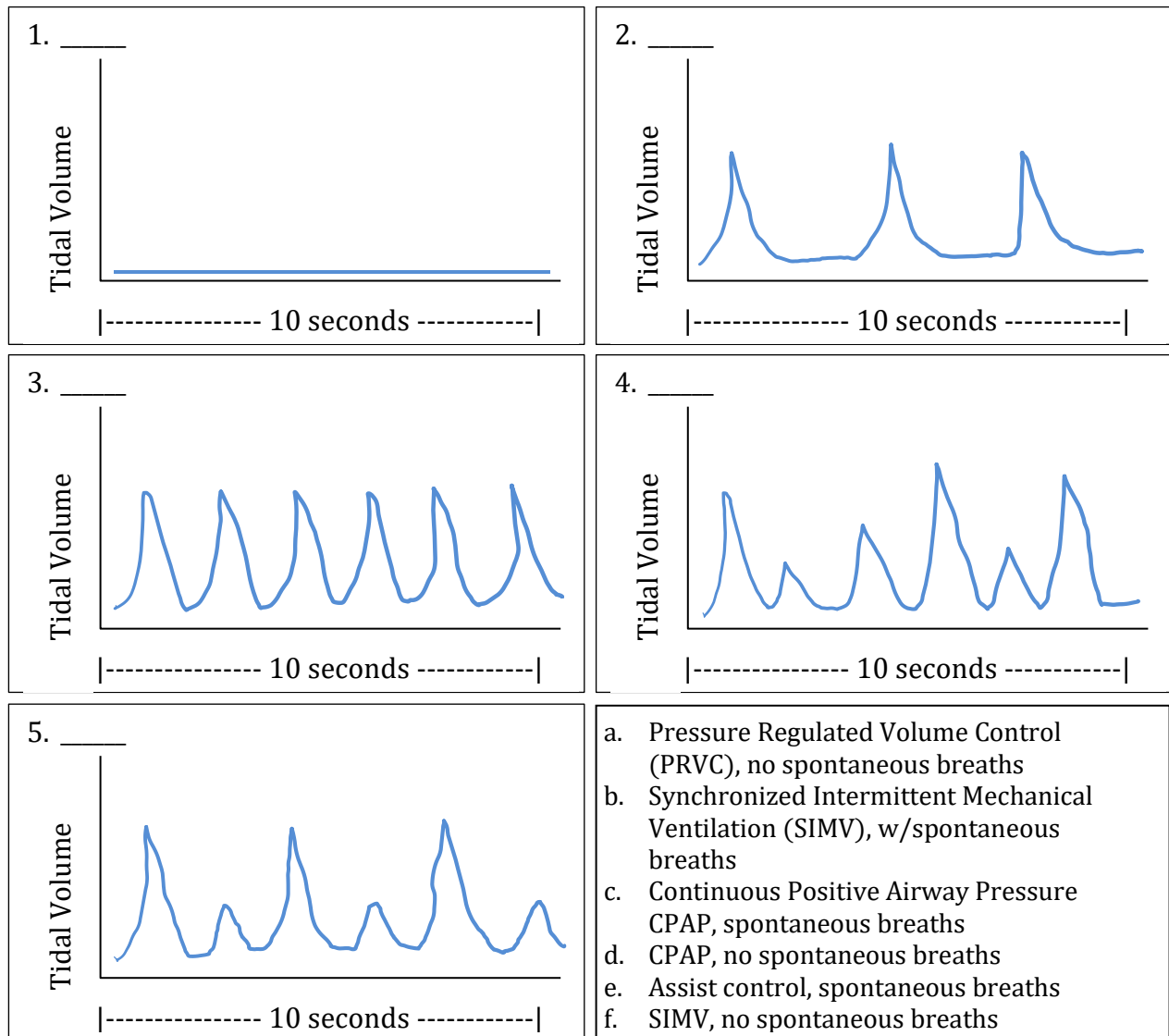


1. Name at least 5 indications for intubation _____

2. The following diagrams represent breathing patterns on various ventilator modes. Fully assisted ventilator breaths have tidal volumes of 600ml. Label each with the likely mode of ventilation (more than one may apply): (Note: set vent rate = 18 on modes for which there is a rate to be set; 10 seconds displayed as on vent screen)



3. The Rapid Shallow Breathing Index is calculated how? What cutoff number is considered to be extubatable-able? _____
4. On a ventilator, the two parameters that are largely responsible for OXYGENATION are: _____ and _____
5. On a ventilator, the two parameters that are largely responsible for VENTILATION are: _____ and _____

6. Modalities that may prevent ventilator associated events (such as pneumonia) include all of the following EXCEPT:
- Head of bed at least 30-45%
 - Subglottic suctioning
 - Oral care
 - Esomeprazole
 - Selective gut decontamination with neomycin/amphotericin/bacitracin in trauma patients
 - Earlier extubation
7. Monitoring and support of hemodynamic and respiratory function can be uncomfortable. Patients usually need sedation, pain-control, and/or paralysis for management. For each agent below, specify which effects are applicable:

<i>Agent</i>	<i>Paralysis?</i>	<i>Sedation?</i>	<i>Pain Control?</i>	<i>Anesthetic?</i>	<i>Causes Respiratory Depression?</i>	<i>Delirium Effect? (better/worse/no effect?)</i>	<i>Major Side Effects</i>	<i>Benefits</i>
Propofol								
Morphine								
Diazepam								
Rocuronium								
Haloperidol								
Cisatracurium								
Midazolam								
Ketamine								
Dexmedetomidine								
Fentanyl								
Etomidate								
Succinylcholine								

8. The typical Richmond Agitation Sedation Scale (RASS) score for an intubated patient is what level? What does that mean? _____
- _____

9. A patient with pneumonia and COPD has been ventilated for 3 days, and develops hypotension with elevated peak airway pressures. What complication of your treatment may be occurring? _____
10. Name 5 etiologies of increased peak airway pressures and briefly discuss management: _____

11. A patient has increased O₂ requirements and diffuse infiltrates. Name two methods to help distinguish between cardiogenic edema and ARDS.

12. Name 3 contraindications to non-invasive ventilation: _____

13. An intubated patient with traumatic brain injury and a suspected pneumonia has a desaturation to 70% while on the ventilator, with peak pressures to 40 with V_t to 200. Describe your diagnostic and therapeutic approach to managing this patient:

14. List 5 ways in which you can reduce intracranial pressure. _____

15. For each of the following hypoperfusion states, state the likely syndrome and an appropriate pressor or treatment (more than one may apply). Be prepared to give reasons.

<i>Cardiac output</i>	<i>PCWP</i>	<i>SVR</i>	<i>Syndrome</i>	<i>Treatment</i>
Decreased	Increased	Increased		
Increased	Decreased	Decreased		
Decreased	Decreased	Increased		

PCWP = pulmonary capillary wedge pressure; SVR = systemic vascular resistance

16. The following is a list of pressor agents. For each one, indicate which receptor (α 1, β 1, β 2, dopamine, vasopressin) is agonized (more than one answer is possible)

dobutamine	_____
norepinephrine (Levophed)	_____
epinephrine	_____
phenylephrine	_____
dopamine (2mcg/kg/min)	_____
dopamine (10mcg/kg/min)	_____
dopamine (20mcg/kg/min)	_____
vasopressin	_____

17. The best way to determine whether a hypotensive patient with septic shock is “fluid responsive” and therefore should receive more fluid is:
- Listening to patient’s lungs, and if clear, giving more fluid
 - Seeing that the Stroke Volume Variability (SVV) $\geq 13\%$
 - $\geq 10\%$ improvement in blood pressure with a 250 ml rapid fluid bolus
 - $\geq 10\%$ improvement in blood pressure, stroke volume and cardiac index and a reduction in the SVV with a 250 ml rapid fluid bolus
 - Monitoring CVP and giving fluid if CVP < 5 cm H₂O
 - Performing a passive leg raise
18. Differential of reversible causes of hypoxia (CDSPIESS) stands for: _____
-
19. A 49 year old male with cirrhosis has a sudden cardiopulmonary arrest in the emergency department. CPR is immediately initiated and a CODE BLUE is called. Prior to securing the airway, the patient has copious vomit of food into the mouth and clamps the mouth down. Which are the TWO interventions most likely to be successful in oxygenating and ventilating the patient?
- | | |
|---|----------------------------------|
| a) Attempting intubation with Glidescope | d) Placing Laryngeal Mask Airway |
| b) Attempting intubation with direct laryngoscopy | e) Performing cricothyrotomy |
| c) Placing King Tube | |
20. A 29 year old female presents to the hospital with diffuse abdominal pain, nausea, vomiting and dehydration. Blood pressure is 90/60, pulse is 140. ABG plus lytes and lactate in the ED: 7.09/ PCO₂ 16 / PaO₂ 132/ HC0₃ 12, Sodium 129, Potassium 5.8, Chloride 94, Lactate 6. What is her acid/base problem? What other test must you obtain in this patient and what is your management? _____
-
21. 60 year old male with diabetes and depression presents with symptoms of left sided weakness and exacerbation of chronic low back pain. During interview in the ED he is insistent that he get more pain medication (seems to be pain medication seeking). Physical exam reveals no left sided weakness. He is admitted to the Telemetry Unit for workup for TIA, where his symptoms of back pain persist. In the overnight period, the patient develops increasing anxiety and agitation, and develops tachycardia to the 130s and hypertension to the 200s/110s. Etiology for the patient’s anxiety/agitation/ tachycardia/ hypertension could include all of the following EXCEPT:
- | | |
|-------------------------|---|
| a) New stroke | g) Pneumonia |
| b) Urinary retention | h) Constipation |
| c) Alcohol withdrawal | i) Hypoglycemia |
| d) Opiate withdrawal | j) Sepsis |
| e) Opiate overdose | k) GI bleeding |
| f) Respiratory distress | l) all of the above can cause agitation |
- 21a. Which of the following is most likely to cause harm in this patient?
- Bladder scan to rule out bladder distension
 - Physical exam to rule out new CVA
 - Initiation of CIWA protocol for possible alcohol withdrawal
 - Arterial blood gas to rule out hypoxia/ hypercarbia
 - Blood draw to rule out acute anemia, acute kidney injury