

**SPARROW HEALTH SYSTEM
ANESTHESIA SERVICES**

ANESTHESIA EXAM (two week rotation)

Circle the best answer

1. During spontaneous breathing, volatile anesthetics
 - A. Increase tidal volume and decrease respiratory rate
 - B. Increase tidal volume and increase respiratory rate
 - C. Decrease tidal volume and decrease respiratory rate
 - D. Decrease tidal volume and increase respiratory rate
 - E. None of the above

2. The reason desflurane is not used for inhalation induction in clinical practice is because of
 - A. Its low blood/gas partition coefficient
 - B. Its propensity to produce hypertension in high concentrations
 - C. Its propensity to produce airway irritability
 - D. Its propensity to produce tachyarrhythmias
 - E. Its propensity to produce nodal rhythms

3. Which of the following volatile anesthetics decrease systemic vascular resistance?
 - A. Halothane, sevoflurane, and isoflurane
 - B. Halothane and sevoflurane
 - C. Desflurane and halothane
 - D. Sevoflurane and isoflurane
 - E. Halothane only

4. The incidence of unpleasant dreams associated with emergence from ketamine anesthesia can be reduced by the administration of
 - A. Atropine
 - B. Scopolamine
 - C. Physostigmine
 - D. Midazolam
 - E. Glycopyrrolate

5. Which of the following is a side effect of Diprovan (Propofol), an intravenous induction agent?
 - A. A decrease in systemic vascular resistance
 - B. A negative inotropic effect
 - C. Produces dose-dependent depression of ventilation
 - D. A decrease in cerebral blood flow (CBF)
 - E. All of the above

6. Which intravenous induction agent would best be chosen for a patient with hypovolemia secondary to trauma?

- A. Propofol
- B. Pentathol
- C. Etomidate
- D. Lidocaine
- E. Ketamine

7. The most important reason for the more rapid onset and shorter duration of action of a single dose of fentanyl compared with morphine is the difference in

- A. Volume of distribution
- B. Hepatic clearance
- C. Renal clearance
- D. Lipid solubility
- E. Protein binding

8. Potential effects of narcotics include all of the following **EXCEPT**

- A. Bradycardia
- B. Shivering
- C. Respiratory depression
- D. Biliary spasm
- E. Emesis

9. All of the following statements about narcotics are correct **EXCEPT:**

- A. Normeperidine, principal metabolite of meperidine, can cause seizures.
- B. Fentanyl is at least 75 times more potent than morphine.
- C. Morphine is the standard for opioid potency comparison.
- D. Opioids can cause sedation, respiratory depression, urinary retention, and nausea and vomiting.
- E. There is no reversal agent for opioids.

10. Which of the following is the earliest sign of local anesthesia toxicity?

- A. Shivering
- B. Nystagmus
- C. Lightheadedness and dizziness
- D. Tonic-clonic seizures
- E. Nausea and vomiting

11. Lidocaine can be given intravenously for

- A. Treatment or prevention of cardiac dysrhythmias
- B. Attenuating heart rate and pressure responses associated with tracheal intubation
- C. Prevention or treatment of increases in ICP associated with tracheal intubation
- D. Minimizing coughing on intubation/extubation
- E. All of the above

12. Bupivacaine can be used as an intravenous replacement for intravenous lidocaine.

- A. True
- B. False

13. Potential adverse side effects of succinylcholine include all of the following **EXCEPT**?
- A. Cardiac dysrhythmias
 - B. Fasciculations
 - C. Trigger for malignant hyperthermia
 - D. Hyperkalemia
 - E. Hypoglycemia
14. All of the following statements concerning the train of four and its clinical use is true **EXCEPT**?
- A. The TOF ratio is the height of the first evoked twitch response divided by the height of the fourth evoked twitch response of a TOF stimulus
 - B. The TOF ratio reflects how much fade has occurred in neuromuscular blockade
 - C. A TOF ratio of 0.70 or more correlates with adequate recovery from neuromuscular blockade for tracheal extubation
 - D. The TOF ratio correlates with the degree of neuromuscular blockade
15. In which of the following situations is succinylcholine most likely to cause severe hyperkalemia
- A. 24 hours after a right hemisphere stroke
 - B. 14 days after a severe burn
 - C. 6 hours after a mid-thoracic spinal cord transection
 - D. End stage renal failure
16. All of the following considerations influence the choice of anesthetic technique **EXCEPT**
- A. Patient's medical history
 - B. The number of times the patient has had anesthesia in the last month
 - C. Patient's preference
 - D. Site of surgery
 - E. Likelihood of aspiration
17. All of the following situations may justify a delay in the surgical procedure **EXCEPT**
- A. The patient is not medically optimized
 - B. A patient scheduled for emergent surgery has not followed NPO guidelines
 - C. Consultation for further evaluation of a medical condition is desired.
18. Patients with poorly controlled hypertension, diabetes mellitus with vascular complications, stable angina pectoris, prior myocardial infarction, or pulmonary disease that limits activity, suggest which physical classification status?
- A. PS-1
 - B. PS-2
 - C. PS-3
 - D. PS-4
 - E. PS-5
19. All the following are part of the airway evaluation **EXCEPT**:
- A. Mallampati classification
 - B. Dentition
 - C. Thyromental distance
 - D. Neck range of motion
 - E. Distance between corner of mouth and angle of mandible

20. All of the following are absolute indications for tracheal intubation during an operation **EXCEPT**

- A. Prevention of aspiration of gastric contents or blood
- B. Need for frequent suctioning
- C. Prone positioning
- D. Patient with obstructive sleep apnea
- E. Operative site near or involving the upper airway

21. Rapid sequence induction is indicated for all of the following **EXCEPT**:

- A. Recent meal
- B. Hypothyroidism
- C. Pregnancy
- D. Bowel obstruction
- E. Full stomach

22. All of the following are potential complications of epidural analgesia **EXCEPT**

- A. Postdural puncture headache
- B. Epidural hematoma
- C. Parasympathetic blockade
- D. Local anesthetic toxicity
- E. Subarachnoid injection

23. Which spinal anesthetic will last the longest?

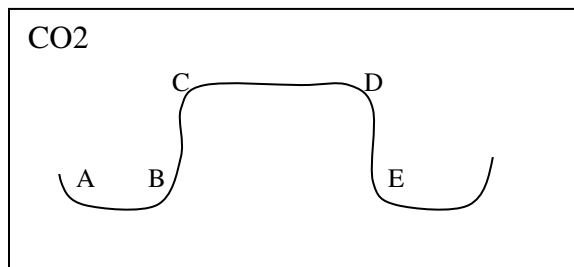
- A. Xylocaine
- B. Marcaine with epinephrine
- C. Tetracaine
- D. Tetracaine with epinephrine
- E. Ropivacaine

24. All of the following are side effects associated with spinal anesthesia **EXCEPT**:

- A. Hypotension
- B. Total spinal
- C. Bradycardia
- D. Tachycardia
- E. Hypoventilation

25. What does phase C-D represent?

- A. Patient at rest (no breath)
(No breath)
- B. Inhalation
- C. Exhalation
- D. Beginning of inspiration and the entrainment of gas



26. All of the following are complications of central venous catheter placement **EXCEPT**:

- A. Arterial puncture
- B. Nerve injury
- C. Pneumothorax
- D. Cardiac dysrhythmias
- E. All of the above can occur

27. Factors that influence accuracy of pulse oximetry include all of the following **EXCEPT**:

- A. Hypotension
- B. History of COPD
- C. Hypothermia
- D. Ambient light
- E. A shivering patient

28. An 18 year old patient involved in a motor vehicle accident is brought to the emergency room in shock. She is transfused with 10 units of type O, Rh negative blood over 30 minutes. After infusion of the first 5 units, bleeding is controlled and her blood pressure rises to 85/51 mmHg. During the next 15 minutes as the remaining 5 units are infused, her systolic blood pressure slowly falls to 60 mmHg, the QT interval is noted to increase from 310 to 470 msec, and the central venous pressure increases from 9 to 20 mmHg. The most likely cause of this scenario is

- A. Citrate toxicity
- B. Hyperkalemia
- C. Hemolytic transfusion reaction
- D. Cardiac tamponade
- E. Tension pneumothorax

29. A 62 year old 100 kg male has pancreatic cancer and is undergoing a Whipple procedure. Fluid related factors for this patient include

- Has been undergoing anesthesia for 3 hours with a very large abdominal incision
- There have been 1500 mL of blood loss so far

How much crystalloid should theoretically have been administered to the patient so far to maintain euvolemia? (Of course in real life, UOP and central venous pressure would help guide your therapy)

- A. 12 L
- B. 8 L
- C. 5 L
- D. 2 L

30. Risks of receiving blood contaminated with Hepatitis C is:

- A. 1/1,000,000 to 2,000,000
- B. 1/30,000 to 1/150,000
- C. 1/500,000 to 1/1,000,000
- D. 1/5,000 to 1/10,000

31. How does Sugammadex work ?

ROTATION EVALUATION

We are committed to providing the best learning experience possible with the Department of Anesthesia at Sparrow Hospital. Your input is appreciated and critical to our continued efforts.

1. What specialty(ies) are you considering?

2. What aspects of the rotation did you find most useful?

3. What aspects of the rotation did you most enjoy?

4. Do you have any suggestions for improving the rotation?

5. Is there anyone in particular you felt was instrumental to your learning on the rotation, or was a particularly gifted teacher?
