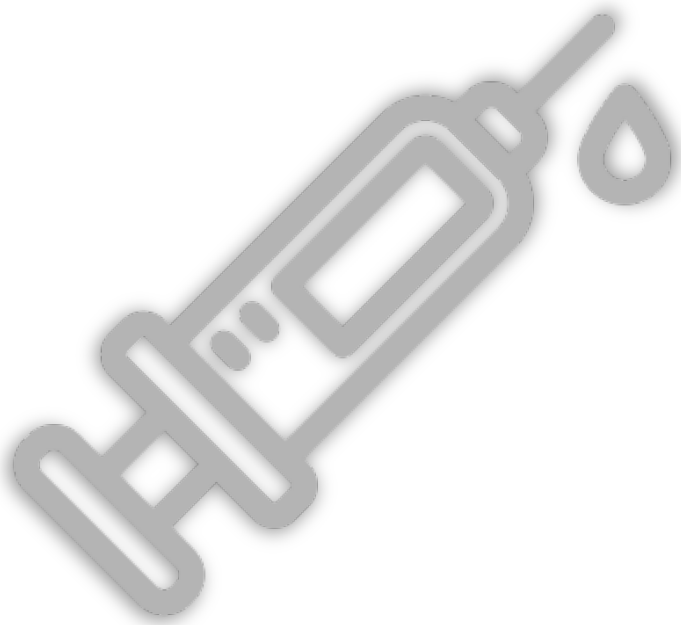
Anesthesia Final 018

(2021-2022)



Collected by:

Nabil G. Sweis

Ameen Alsaras

Anesthesia Final 018 (2021-2022)

1. Which of the following IV anesthetics produces profound analgesia?

    A. Propofol
    B. Midazolam
    C. Etomidate
    D. Ketamine
    E. Thiopental

Answer: D

2. Delirium and hallucinations are characteristic side effects of which of the following anesthetic agents:

    A. Propofol
    B. Midazolam
    C. Etomidate
    D. Ketamine
    E. Thiopental

Answer: D

3. Which of the following anesthetic agents increases intracranial pressure?

    A. Propofol
    B. Sevoflurane
    C. Etomidate
    D. Midazolam
    E. Thiopental

Answer: B

4. Which pediatric age group has the greatest risk of anesthetic morbidity and mortality?

    A. Infants
    B. Young children
    C. Toddlers
    D. Neonates
    E. Premature babies

Answer: E

5. What is the appropriate internal diameter of a cuffed endotracheal tube that should be used in a 10-year child undergoing general anesthesia?

   A. 6.5 mm
   B. 6 mm
   C. 5.5 mm
   D. 5 mm
   E. 4.5 mm

Answer: B

6. Calculate the maintenance fluid (mL/hr) for a 24-Kg child:
   A. 60
   B. 64
   C. 98
   D. 48

Answer: B

7. In the ABCDE approach to a deteriorating patient, examination of the pupils is part of the evaluation of which of the following?

   A. Airway
   B. Breathing
   C. Circulation
   D. Disability
   E. Exposure

Answer: D

8. Which of the following patient groups is incorrectly matched with its estimated blood volume?

   A. Men: 75ml/kg
   B. Women: 65 ml/kg
   C. Infants: 80 ml/kg
   D. Neonates: 85 ml/kg
   E. Premature neonates: 120 ml/kg

Answer: E

9. Which of the following is not a circulatory cause of cardiac arrest?

   A. Drugs
   B. Septic shock
   C. Respiratory distress
   D. Electrolyte imbalance
   E. Acute coronary syndrome

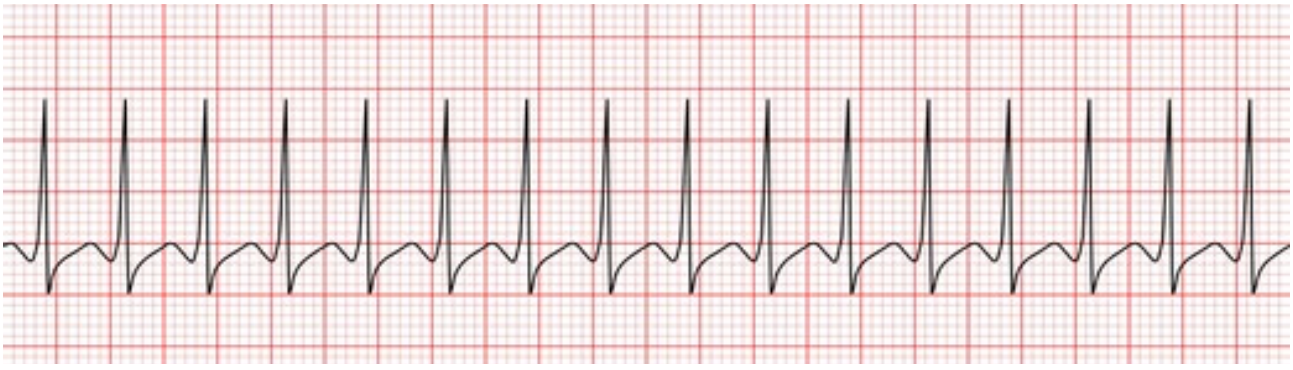
Answer: C

10. Choose the incorrect statement about pain pathways: *(I could only recall the correct answer. The rest of the options were added by me but are somewhat similar to those that showed up on the exam)*

    A. Second-order neurons extend from pain receptors to the dorsal horn in the spinal cord
    B. Third-order neurons transmit signals from the thalamus to the cortex
    C. Second-order neurons run in the spinothalamic tracts
    D. First-order neurons receive signals from pain receptors
    E. First-order neuron fibers can be of the C or Aδ type

Answer: A

11. A patient presented to the emergency department with chest pain and palpitations. Blood pressure was 70/50 at presentation. An ECG was performed and is shown below. What is the best next step in management?



    A. Administer Amiodarone 300 mg IV
    B. Administer Adenosine 6 mg IV
    C. Administer beta blockers
    D. Perform carotid massage
    E. Synchronized DC shock

Answer: E

12. Which of the following would best justify the answer to the previous question (question 11)? *(I could only recall the correct answer. The rest of the options were added by me but are somewhat similar to those that showed up on the exam)*

A. The patient has chest pain and is hypotensive
B. The patient has cardiac arrest
C. The patient has a supraventricular tachyarrhythmia
D. The patient has palpitations

Answer: A

Note: Why not C? Although the patient has a supraventricular arrhythmia (SVT), this does not sufficiently justify our answer in question 11 because carotid massage, adenosine and beta blockers are also viable treatment choices for SVT, so how come we did not choose any of them? We still need to explain why we specifically chose synchronized DC shock over the other viable SVT treatment choices. We specifically chose "synchronized DC shock" because of the patient's chest pain and hemodynamic instability (unstable patients with SVT go directly to DC shock according to the algorithm), so this is the BETTER justification.

13. Choose the correct statement regarding MAC (minimum alveolar concentration):

A. It is elevated in hypothermia
B. It decreases by about 6% every 10 years
C. It decreases by 10% every 6 years
D. It increases by about 6% every 10 years
E. It increases by 10% every 6 years

Answer: B

14. Naloxone is used to reverse all of the following effects of opioids EXCEPT:

A. Respiratory depression
B. Rigidity
C. Constipation
D. Pruritis
E. Nausea

Answer: C

15. All of the following are causes of distributive shock EXCEPT:

A. Sepsis
B. Endocrine and neurogenic abnormalities
C. Anaphylaxis
D. Drug reactions
E. Tension Pneumothorax

Answer: E

16. Which of the following procedures is least likely to need muscle relaxation?

A. Laparoscopic abdominal surgery
B. Total knee replacement
C. Emergency surgery for intestinal obstruction

Answer: B

17. Choose the correct statement regarding regional anesthesia:

A. The gauge of the needle used for epidural anesthesia is 18
B. Postdural puncture headache is not a complication of epidural anesthesia
C. Spinal anesthesia is administered as a continuous infusion

Answer: A

18. Which of the following is a natural opioid?

A. Dihydromorphone
B. Benzomorphan
C. Papaverine
D. Heroin
E. Alfentanil

Answer: C

19. All of the following cause respiratory failure due to shunting EXCEPT:

A. Pulmonary hemorrhage
B. Pulmonary edema
C. Pneumonia
D. CNS depression
E. A/V malformation

Answer: D

20. Which of the following anesthetic agents does NOT cause muscle relaxation:

A. Sevoflurane
B. N2O
C. Succinylcholine

Answer: B

21. Choose the wrong statement regarding gas supply to the anesthetic machine:

A. Liquid Oxygen should be stored at -118.5° C and 50 atm.
B. Nitrous oxide and carbon dioxide cylinders contain liquid and vapour
C. Liquid oxygen plants need to be housed some distance away from hospital buildings

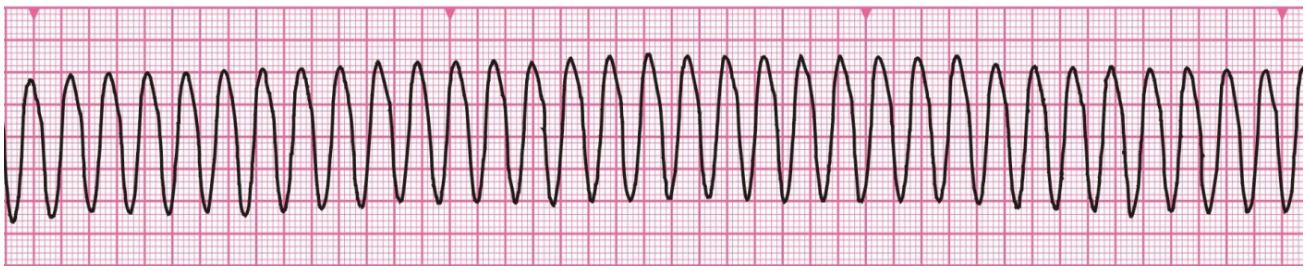
Answer: Unknown

22. Which of the following statements is true?

A. DISS is used in pipeline supply source
B. Nitrous Oxide cylinders attached to anesthesia machine are usually size J

Answer: A

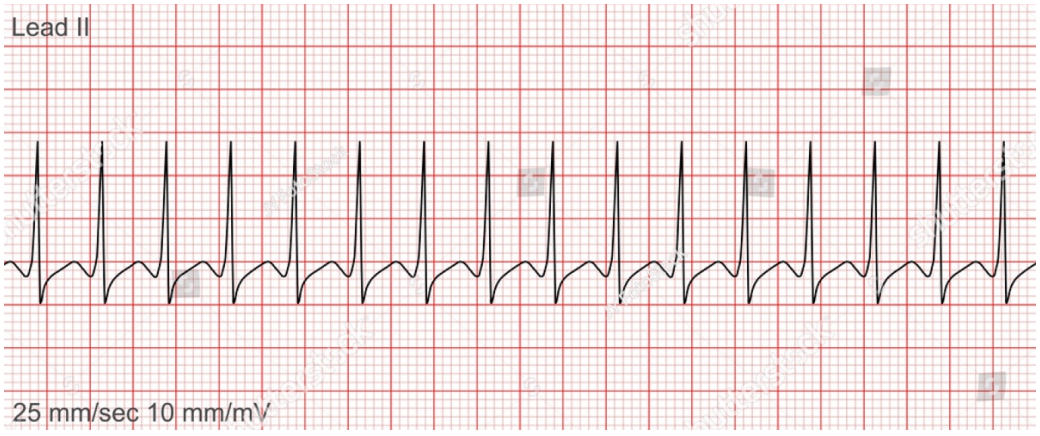
23. A patient gets suddenly unconscious with no pulse in the ICU and attached ECG shows the following. What are the next three steps in his management once you reach the patient?



A. Deliver shock, administer epinephrine, deliver another shock
B. Chest compressions, re-evaluate the pulse, continue compressions
C. Chest compressions, charge, deliver shock

Answer: C

24. If the same patient in the previous question was hemodynamically stable and had the following rhythm. What is the first line of management?



25.

A. Adenosine
B. Amiodarone
C. Epinephrine
D. Beta-blockers

Answer: A

26. If the previous management did not work. What is the next pharmacological choice?

A. Digoxin
B. Amiodarone
C. Magnesium
D. Beta blocker

Answer: D

27. Which of the following anesthetic drugs is most associated with sensitization of the heart to the arrhythmogenic effects of epinephrine?

A. N2O
B. Halothane
C. Sevoflurane
D. Isoflurane
E. Desflurane

Answer: B

Note: According to the slides, sevoflurane also sensitizes the heart to the arrhythmogenic effects of epinephrine. In the exam, both options were present, and it seems halothane is more typically associated with this effect and is therefore the answer.

28. Which of the following is the best treatment choice for a patient with anaphylactic shock?

A. IV epinephrine
B. IM epinephrine
C. Antihistamines
D. Albuterol
E. Steroids

Answer: B?

Note: There was debate over the best modality of epinephrine administration in anaphylactic shock (IV or IM). No definitive answer was reached, but IM epinephrine is a faster and safer option in general and therefore MIGHT be the correct answer.

29. Choose the incorrect statement regarding airway management in pediatric patients:

A. Airway difficulties are more likely to be encountered in infants than adults
B. The Microcuff tracheal tube is contraindicated in pediatrics

C. During periods of intubation attempts, atelectasis and hypoxemia may occur

Answer: B

30.In neonates, cardiac output can be increased mainly by an increase in:

A. Heart rate
B. Venous return
C. Systemic vascular resistance
D. Parasympathetic tone
E. Stroke volume

Answer: A

31. The goal of rapid sequence induction in anesthesia is:

A. To improve laryngoscopy view
B. To prevent hypoxemia
C. To minimize the risk of aspiration
D. To maintain hemodynamic stability
E. Decrease induction time

Answer: C

32.Which of the following is true regarding management of aspiration?

A. Adjusting the table head-down is useful
B. Intubating the patient comes first
C. Suctioning the secretions comes first

Answer: B

33. Which of the following is not used in the case of respiratory failure?

A. Admission to ICU
B. Administration of Antibiotics
C. Simple face mask

Answer: C

34. A laryngeal mask airway is contraindicated in all of the following cases EXCEPT:

A. Laparoscopic surgery
B. Bronchial asthma
C. Emergency surgery for intestinal obstruction
D. Right lung lobectomy

Answer: B

35. Choose the incorrect statement about the laryngoscope:

A. The head of the patient should be at the level of the operator's xiphisternum
B. It is inserted using the dominant hand
C. Elevation of the tongue in the upward and forward axis

Answer: B

36. Which of the following statements is true?

A. LMA should be free while inflating the cuff
B. Oral airway length should be midway between the mandible and ear tragus
C. The cuff pressure should not exceed 35 cmH2O

Answer: C

37. Regarding non-depolarizing neuromuscular blockers, choose the incorrect statement:

A. Cisatracurium cannot be used in renal failure
B. Onset of action is unchanged in obese patients
C. Pancuronium is affected by hepatic disease

Answer: A

38. What is the earliest systemic sign of local anesthetic toxicity?

A. Hypotension
B. Respiratory depression
C. Confusion
D. Cardiovascular depression
E. Diaphoresis

Answer: C

Note: Some argued that hypotension is the answer. Multiple internet sources seemed to agree on confusion as one of the earliest signs and is therefore the most likely correct answer.

39. A rapid induction agent that is less likely to cause lightheadedness:

A. Etomidate
B. Propofol

Answer: B

40. Which of the following is false regarding Mapelson F system?

A. In spontaneous breathing, required fresh gas flow is less than 2*minute ventilation
B. It provides CPAP during spontaneous breathing
C. It contains no expiratory value

Answer: A

41. Which of the following local anesthetic agents belongs to the ester family?

A. Bupivacaine
B. Lidocaine
C. Procaine
D. Etidocaine
E. Mepivacaine

Answer: C

42. Which of the following is FALSE regarding hypoxic hypoxia?

A. Bronchial asthma is a cause
B. Minute ventilation is not increased as a response

Answer: B

43. Choose the incorrect statement regarding neostigmine:

A. It decreases salivation
B. It increases bladder tone
C. It may cause bronchospasm

Answer: A

44. Which of the following is NOT a direct effect of acute hypoxia?

A. Confusion
B. Nausea
C. Cyanosis
D. Headache
E. Hyperventilation

Answer: E

45. Which of the following enzymes does NOT degrade succinylcholine?

A. Acetylcholinesterase
B. Pseudocholinesterase
C. Butyrylcholinesterase
D. Plasma cholinesterase

Answer: A

46. What is the mechanism of action of neostigmine?

A. Increases Ach concentration at the neuromuscular junction
B. Increases the activity of acetylcholinesterase

C. Blocks Ach receptors on the postsynaptic membrane
D. Increases Ach release from the nerve terminals

Answer: A

47. Choose the incorrect statement regarding cardiac arrest and basic life support:

A. Hypertension and tachycardia are the early signs for impending cardiac arrest
B. The evidence-based practices in CPR are chest compressions and early defibrillation

Answer: A

48. If the bioavailability of a drug administered orally is equal to the bioavailability of the same drug administered intravenously, this means that:

A. The patient has a big mouth *(this was really an option in the exam)*
B. The drug bypasses first pass metabolism
C. The drug is absorbed in the duodenum
D. The drug is protein-bound in plasma

Answer: B

49. What is the mechanism of action of local anesthetics?

A. Act as agonists at GABA receptors
B. Block NMDA receptors
C. Block Na+ channels
D. Activate chloride channels
E. Block potassium channels

Answer: C

50. Which of the following is not a response to pain?

A. Tachycardia
B. Decreased CO2 production
C. Increased catabolic hormones

Answer: B

51. Choose the incorrect statement regarding remifentanyl:

A. It can be used as an analgesic agent in total intravenous anesthesia
B. It is rapidly metabolized in blood
C. It causes tachycardia
D. Its half-life is not affected by pseudocholinesterase deficiency

Answer: C

52. Which of the following is false regarding malignant hyperthermia?

A. It is inherited in an autosomal dominant manner
B. It is due to exposure to certain anesthetic agents in patients harboring a certain mutation in the ryanodine receptor
C. It involves increased calcium reuptake in the muscle fiber upon exposure to the culprit agent

Answer: C

53. Which of the following statements is not true?

A. Decreased 2,3 DPG shifts the curve to the right
B. Polycythemia is a result of chronic hypoxia

Answer: A

54. In which of the following is the risk of aspiration the highest?

A. Emergent abdominal surgery
B. Mass resection
C. Elective hip replacement

Answer: A

55. How much 0.25 % Bupivacaine should use for infiltration to excise lipoma in the forearm for a 50 Kg patient?

A. 60ml
B. 75ml
C. 40ml
D. 80ml

Answer: C

56. Calculate the maintenance fluid requirements for an 80-kg adult:

A. 140 ml/hour
B. 120 ml/hour
C. 100 ml/hour
D. 90 ml/hour
E. 80 ml/hour

Answer: B

57. What is the best method to confirm the correct position of the endotracheal tube?

A. Under direct vision
B. Airway pressure
C. Water vapor in the expiratory limb
D. Fiber-optic scope
E. Chest rising

Answer: D

58. When encountering an unexpectedly difficult intubation, what is the immediate next step?

A. Resume mask ventilation
B. Call your senior
C. Change head position and re-attempt intubation
D. Consider video-laryngoscopy
E. Use fiberoptic intubation

Answer: A?

Note: When faced with difficult intubation, the next step is A+B (resume mask ventilation and call your senior). However, these were separate options in the exam. So, first you should resume mask ventilation because the patient is your priority, and you should at least establish any form of oxygenation immediately. Next, call your senior. (Not 100% sure of the answer).

59. Which of the following is not done in a patient presenting with respiratory failure?

A. bronchoscopy
B. CK enzyme
C. Troponin
D. Lung CT biopsy

Answer: D

60. Which of the following can be obtained from an arterial line?

A. States of congestion
B. A route to administer vasoconstrictors
C. Heart rate and rhythm

Answer: C

61. Which of the following is a relative contraindication for spinal anesthesia?

A. Uncooperative patient
B. Aortic stenosis
C. Anticoagulation
D. Localized infection
E. Untreated hypovolemia

Answer: A

62. Choose the correct statement regarding the stages of surgical anesthesia:

A. Paresis of the diaphragm precedes paresis of intercostal muscles
B. Regular breathing precedes cessation of REM
C. Vivid dreams are frequent during these stages

Answer: B

63. Which of the following agents requires a special vaporizer?

A. Enflurane
B. Sevoflurane
C. Desflurane

Answer: C

64. Choose the wrong option regarding Ringer' Lactate composition:

A. Cl^- concentration: 99 mmol/L
B. Na^+: 131 mmol/L
C. Lactate: 29 mmol/L
D. K^+: 5 mmol/L
E. Ca^{+2}: 2 mmol/L

Answer: A

65. Which of the following is not a reversible cause of cardiac arrest?

A. Hematoma
B. Cardiac tamponade
C. Pulmonary embolism

Answer: A

66. Amnesia starts after which of the following stages?

A. Light sedation
B. Deep sedation
C. Surgical Anesthesia

Answer: A or B??

The wording of the question was vague, and it was not clear whether they intended to ask about the stage prior to amnesia or the stage during which amnesia starts. Not quite sure, but they may have wanted B as the correct answer.

67. A patient is given a mixture of 50% N_2O and 50% O_2, what is the expected effect on the patient?

A. Sedation
B. Excitation

C. Analgesia

Answer: C

68. Which of the following scales is not used to rate pain?

A. Visual Analogue Scale
B. The McGill Pain Index
C. Wong-Baker FACES rating scale
D. BIS

Answer: D

69. What is the most common type of regional anesthesia performed in pediatrics?

A. Caudal block
B. Epidural anesthesia
C. Spinal anesthesia

Answer: A

70. At what Hemoglobin level is blood transfusion indicated?

A. Hb 12
B. Hb 10
C. Hb 7
D. Hb 5

Answer: C

71. . Which of the following is wrong regarding flowmeters?

A. If a leakage is found, fix the machine before induction then proceed with fixed machine
B. Oxygen flowmeter should be placed down-stream
C. Linked flow meters prevent the flow of pure N2O to the patient

Answer: A

72. Choose the true statement regarding hypnosis:

A. It involves vasomotor suppression
B. It does not cause analgesia
C. It occurs before the excitement phase

Answer: B

73. Which of the following is NOT a side effect of opioids?

A. Nausea
B. Vomiting
C. Constipation
D. Mydriasis
E. Pruritis

Answer: D

Good Luck