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**QUESTIONS**

**FOR THE DIFFERENTIATED TEST (Anesthesiology and Reanimatology)**

**FOR Vth YEAR STUDENTS FOR THE 2018-2019 ACADEMIC YEAR**

**1.Anesthesia**

1.Inhalational anesthetics.

2. Intravenous anesthetics.

3. Muscle relaxants: types, mechanism of action.

4. Opioid analgesics.

5.Preoperative evaluation and medication. ASA anesthesia risk score.

6.Stages of general anesthesia.

7.Monitoring during anesthesia.

8.Anesthesia and monitoring equipment.

9.Local anesthetics: mechanism of action. Differential blockade.

10.Local anesthetics: classification and clinical characteristics.

11.Technics for local/regional anesthesia.

12. Spinal anesthesia.

13. Epidural anesthesia.

14.Complications related to general and local/regional anesthesia.

15.Pain pathophysiology.

16.Pain management.

**2.Acute respiratory failure**

1. Acute respiratory failure: definition and classification.

2. Hypoxemic respiratory failure: causes, mechanisms of hypoxemia, clinical picture.

3. Hypercapnic respiratory failure: causes, mechanisms of hypercapnia, clinical picture.

4. Managemment of airway obstructions.

5. Acute respiratory distress syndrome: ethiology, mechanisms of hypoxemia, clinical picture.

6. Acute respiratory distress syndrome: diagnosis and treatment.

7. Status asthmaticus: clinical picture and treatment approaches.

8. Oxygen therapy: indications and complications.

9. Mechanical ventilation: indications and complications.

10. Repiratory function monitoring.

**3.Acute cardiovascular falure**

1. Acute heart failure definition. Causes of right- and left-sided, mixed and diastolic acute heart failure.
2. Oxygen transport: components and equation. Cardiac output determinants.
3. Preload and afterload: definition and components.
4. Cardio-vascular function monitoring. Definition of 10 parameters of cardio-vascular function.
5. Inra-aortic baloon pump counterpulsation.
6. Cardiac output measurement techniques.
7. [Treatment of life-threatening arrhythmias.](https://www.ncbi.nlm.nih.gov/pubmed/6269450)
8. Vasoactive and inotropic drugs used in the management of acute cardio-vascular failure (Epinephrine, Norepinephrine, Phenylephrine Dobutamine, Dopamine, Efedrine).

**4. Shock**

1.Shock:definition, classification, pathophysiology.

2.Hypovolemic shock: etiology and pathogenesis.

3.Hypovolemic shock: clinical picture and treatment.

4.Cardiogenic shock: etiology, pathogenesis, clinical picture and treatment.

5.Septic shock: etiology, pathogenesis, clinical picture and treatment.

6.Anaphylactic shock: etiology, pathogenesis, clinical picture and treatment.

7.Neurogenic shock: etiology, pathogenesis, clinical picture and treatment.

8.Pulmonary embolism: clinical picture and treatment.

**5. Coma. Diagnosis and treatment**

1. Degrees of neurological status impairement.

2. Coma etiology.

3. Key concepts in neurologic/neurosurgical intensive care.

4. Determinants of cerebral blood flow and intracranial pressure.

5. Coma diagnosis: medical history, physical examination, neurologic evaluation, paraclinical investigation.

6. General principles of treatment of coma.

8. Brain death: diagnostic criteria. Patient with brain death as potential organ donor.

**6. Infusion therapy. Parenteral nutrition**

1. Red blood cell concentrate. Indications for perioperative transfusion.

2. Fresh frosen plasma and cryoprecipitate. Indications for use.

3. Platelet concentrate. Indication for use.

4. Infusion therapy. Electrolyte solutions.

5. Infusion therapy. Colloid solutions.

6. Indications for parenteral nutrition. Components.

7. Estimation of parenteral nutrition requirements.

**7. Water-electrolyte imbalance**

1. Hypovolemia,causes, signs/symptoms, treatment.
2. Hypervolemia,causes, signs/symptoms, treatment.
3. Hypernatremia, causes,signs/symptoms, treatment.
4. Hyponatremia, causes, signs/symptoms, treatment.
5. Hyperkalemia, causes, signs/symptoms, treatment.
6. Hypokalemia, causes,signs/symptoms, treatment.

**8.Acid-base balance**

1. Buffering systems and acid-base balance.

2. Renal and pulmonary regulation of acid-base balance.

3. Acid-base balance parameters.

4. Metabolic acidosis.

5. Metabolic alkalosis.

6. Respiratory acidosis.

7. Respiratory alkalosis.

**9.Acute liver failure**

1. Acute liver failure: definition and causes.

2.Acute liver failure: etiological treatment.

3. Acute liver failure: supportive treatment (cardio-vascular system, respiratory system, nervous system).

4. Acute liver failure: specific treatment (coagulation desorders, infection, kidney failure).

**10. Acute kidney injury**

1. Acute kidney injury: definition, classification, diagnostic criteria.

2. Acute kidney injury: causes, pathogenesis, clinical picture, diffrential diagnosis.

3. Acute kidney injury: clinical picture, treatment.

4. Acute intrinsic kidney injury: causes, pathogenesis, clinical picture, diffrential diagnosis.

5. Acute intrinsic kidney injury: clinical picture, treatment.

6. Assesmment of the patient with acute kidney injury.

7. Renal replacement therapy in acute kidney injury: indications.

8. Renal replacement therapy in acute kidney injury: methods and complications.

3.09.2018