“APPROVED”

 Head of the Department of Anesthesiology and Reanimatology No.1 “Valeriu Ghereg” Professor, S.Şandru

 **QUESTIONS FOR PRACTICAL CLASSES**

**(Anesthesiology and Reanimatology)**

**FOR Vth YEAR STUDENTS FOR THE 2019-2020 ACADEMIC YEAR**

**1.Anesthesia**

1.Inhalational anesthetics.

2. Intravenous anesthetics.

3. Muscle relaxants: types, mechanism of action.

4. Opioid analgesics.

5.Preoperative assessment 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 nerve block.

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, symptoms.

3. Hypercapnic respiratory failure: causes, mechanisms of hypercapnia, symptoms.

4. Repiratory monitoring in ICU.

5. Managemment of airway obstructions.

6. Acute respiratory distress syndrome: ethiology, mechanisms of hypoxemia, symptoms.

7. Acute respiratory distress syndrome: diagnosis and treatment.

8. Severe exacerbation of bronchial asthma: symptoms and treatment.

9. Oxygen therapy: indications and complications.

10. Nosocomial pneumonia.

11. Mechanical ventilation: indications and complications.

**3.** **Cardiovascular monitoring. Acute heart failure.**

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. Cardiovascular monitoring. Definition of 10 cardiac parameters.
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 agents used in the treatment of acute heart failure (Epinephrine, Norepinephrine, Phenylephrine Dobutamine, Dopamine, Efedrine).

**4. Shock**

1.Shock:definition, classification, pathophysiology.

2.Hypovolemic shock: etiology and pathogenesis.

3.Hypovolemic shock: clinical manifestations, treatment.

4.Cardiogenic shock: etiology, pathogenesis, clinical manifestations, treatment.

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

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

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

8.Pulmonary embolism: clinical manifestations 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. Hydroelectrolytic disturbances.**

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 disturbances.**

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.

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