

## **Questions for classes in anesthesiology and critical care for 4th year students**

### **Spring semester**

#### **Lesson 1. Terminal conditions. Cardiopulmonary and cerebral resuscitation**

1. Pathogenesis and mechanisms of cardiac arrest. Clinical presentation and diagnosis.
2. The initial (basic) level of adult resuscitation.
3. A qualified level of adult resuscitation.
4. Resuscitation of children and newborns.
5. Drug therapy for resuscitation of adults and children.
6. Electrical impulse therapy (electrical cardioversion and cardiac pacing).
7. Post-resuscitation therapy (cerebral resuscitation).
8. Brain death. Diagnostics. Tactics.
9. Electrical injury. Heatstroke. Clinic, intensive care
10. Drowning. Clinic, intensive care. Drowning in fresh and salt water.
11. Overcooling. Clinic, intensive care.

#### **Lesson 2. Shock**

1. Acute coronary syndromes. Modern intensive care tactics.
2. Shock. Classification. Pathophysiology, clinical presentation. Principles of therapy
3. Diagnosis and intensive care of cardiogenic shock.
4. Diagnosis and intensive care of hemorrhagic shock.
5. Diagnosis and intensive care of burn shock.
6. Diagnosis and intensive care of anaphylactic shock.
7. Pathogenesis, diagnosis and treatment of DIC.
8. Enteral and parenteral nutrition in critical care. Calculation of calories. Methodology.

#### **Lesson 3. Acute respiratory failure**

1. Clinical and laboratory signs of respiratory failure. Etiology
2. Intensive therapy of respiratory failure (restoration of airway clearance, oxygen therapy, mechanical ventilation)
3. Pulmonary thromboembolism. Clinic, diagnosis, intensive care
4. Pulmonary edema. Clinic, diagnosis, intensive care.
5. Acute Respiratory Distress Syndrome
6. Intensive therapy of severe pneumonia. Community and hospital acquired pneumonia. Prevention of nosocomial pneumonia.
7. Cricothyrotomy and tracheostomy in critical conditions. Indications. Methodology. Complications.

#### **Lesson 4. Sepsis + CNS dysfunction**

1. Sepsis. Clinic, diagnosis and intensive care
2. Diagnosis and intensive care of septic shock.
3. Antibacterial therapy of severe infections. De-escalation therapy.
4. Coma. Glasgow score. The dangers of coma. Examination of the patient in a coma.
5. Ischemic and hemorrhagic stroke. Diagnostics. Differences in intensive care tactics.
6. Comatose states in diabetes mellitus (hypoglycemic and hyperglycemic ketoacidotic coma).  
Diagnosis, intensive care.
7. Cerebral edema. The reasons. Diagnostics. Intensive therapy.
8. Traumatic brain injury. Clinic and intensive care.

#### **Lesson 5: Resuscitation and Intensive Therapy in Toxicology**

1. Acute renal damage. Etiology, diagnosis, treatment.
2. Hemodialysis. The principle of the method. Use in acute renal damage and chronic renal disease
3. Peritoneal dialysis. The principle of the method.
4. Extracorporeal blood purification in intensive care (hemosorbition, plasma exchange, hemofiltration, hemodiafiltration)
5. Acute hepatic failure. Etiology, diagnosis, treatment.
6. Acute poisoning. The reasons. Toxicokinetics and toxicodynamics of poison. Clinical stages of poisoning. Clinical syndromes. Diagnostics.
7. Acute poisoning. General principles of treatment.
8. Acute alcohol poisoning. Diagnostics, intensive care
9. Acute poisoning with alcohol substitutes (ethylene glycol, methanol). Diagnosis, intensive care.
10. Acute poisoning with acetic acid. Diagnosis, intensive care.
11. Acute carbon monoxide poisoning (carbon monoxide). Diagnosis, intensive care.
12. Acute poisoning with methemoglobin formers. Diagnosis, intensive care.
13. Acute poisoning with psychotropic drugs. Diagnosis, intensive care.
14. Acute mushroom poisoning. Diagnosis, intensive care.
15. Poisoning with biological poisons (snake venom, jellyfish).