

EXAM QUESTIONS

1. Pain. Central and peripheral mechanisms of pain. Antinociceptive system
2. Assessment of pain. Modern possibilities and approaches to analgesia
3. Opioid analgesics in anesthesiology and intensive care. Main pharmacological effects. The main representatives of opioid analgesics. Opioid receptor antagonists
4. Patient-controlled analgesia. The concept. Field of application
5. Non-opioid analgesics in anesthesiology and intensive care. Main pharmacological effects. The main representatives of NSAIDs. Paracetamol in intensive care
6. Preparation of patients for elective surgical interventions
7. Preparation of patients for emergency surgical interventions
8. Assessment of anesthetic risk (ASA scale)
9. Preoperative prophylaxis of thromboembolic complications
10. Preoperative antibiotic prophylaxis. Goals
11. Prevention of aspiration complications before surgery
12. Premedication - goals and objectives
13. Monitoring the patient during anesthesia
14. Gas monitoring during anesthesia
15. Monitoring of muscle relaxation during anesthesia. Peculiarities of invasive monitoring of hemodynamics
16. Components and stages of general anesthesia
17. Local anesthetics in anesthesiology
18. Narcotic analgesics in anesthesiology (fentanyl, sufentanil, remifentanil)
19. Intravenous anesthetics in anesthesiology (midazolam, propofol, ketamine, thiopental)
20. Inhalation anesthetics in anesthesiology (nitrous oxide, halothane, isoflurane, sevoflurane)
21. Miorelaxants in anesthesiology. Features of depolarizing muscle relaxants
22. Miorelaxants in anesthesiology. Features of nondepolarizing muscle relaxants
23. Intubation of the trachea. Equipment. Monitoring. Laryngeal mask in anesthesiology
24. Complications of intubation of the trachea. The concept of "difficult airway". Prediction of "difficult intubation"
25. Intraoperative period: induction of anesthesia, the formation of anesthesia, maintenance of anesthesia, recovery from anesthesia
26. Recovery from anesthesia. Extubation. Complications of the recovery stage
27. Total intravenous anesthesia. The concept. Technique of conducting
28. Inhalational mask anesthesia. The concept. Technique of conducting
29. Endotracheal combined anesthesia. The concept. Technique of conducting
30. Life-threatening intraoperative complications
31. Infusion therapy during surgery. Crystalloid and colloidal blood substitutes
32. Use of blood products during surgery. Technologies of blood preservation in surgery
33. Early postoperative period. Monitoring. Complications. Recovery room
34. Analgesia in the postoperative period
35. The concepts of expedited surgical rehabilitation after "high risk" operations (fast-track / ERAS concept)
36. Spinal anesthesia. Method of conducting. Indications and contraindications. Complications
37. Epidural anesthesia. Method of conducting. Indications and contraindications. Complications
38. Sacral (caudal) anesthesia. Method of conducting. Indications
39. Conductive anesthesia. Technique. Indications and contraindications. Complications

40. Features of anesthesia in children. The concept of a dose factor
41. Acid-base balance disorders (metabolic and respiratory acidosis, metabolic and respiratory alkalosis). Causes. Ways of correction
42. Fluid-electrolyte balance disorders. Hyper - and dehydration. Hypo- and hyper-Na-emia. Hypo- and hyper-K-emia. Causes. Ways of correction
43. Pathogenesis and mechanisms of sudden cardiac arrest. Clinical presentation and diagnosis
44. Initial (basic) level of resuscitation of adults
45. Qualified level of resuscitation of adults
46. Resuscitation of children and newborns
47. Drug therapy for resuscitation of adults and children
48. Electric pulse therapy (electrical cardioversion and electrical cardiac stimulation)
49. Post-resuscitative therapy (cerebral resuscitation)
50. Death of the brain. Diagnostics. Tactics
51. Electrical injury. Heatstroke. Clinical presentation, intensive care
52. Drowning. Clinical presentation, intensive care. Drowning in fresh and salt water. Subcooling. Clinical presentation, intensive care
53. Comatose conditions. The Glasgow Coma Scale. Dangers of coma. Examination of a patient in a coma
54. Ischemic and hemorrhagic stroke. Diagnostics. Differences in the tactics of intensive care
55. Comatose conditions in diabetes mellitus (hypoglycemic and hyperglycemic ketoacidotic coma). Diagnosis, intensive care
56. Cerebral swelling. Causes. Diagnostics. Intensive therapy
57. Craniocerebral injury. Clinic and intensive care
58. Conico- and tracheostomy in critical conditions. Indications. Method of conducting. Complications
59. Clinical and laboratory signs of respiratory failure. Causes
60. Intensive therapy of respiratory insufficiency (airway management, oxygen therapy, ventilation)
61. Pulmonary embolism. Clinical presentation, diagnosis, intensive care
62. Pulmonary edema. Clinical presentation, diagnosis, intensive care
63. Acute respiratory distress syndrome of adults
64. Acute coronary syndromes. Modern tactics of intensive care
65. Intensive therapy for severe pneumonia. Community- and hospital acquired pneumonia. Prevention of nosocomial pneumonia
66. Shock. Classification. Pathophysiology, Clinical features. Principles of therapy
67. Diagnosis and intensive care of cardiogenic shock
68. Diagnosis and intensive therapy of hemorrhagic shock
69. Diagnosis and intensive therapy of burn shock
70. Diagnosis and intensive therapy of anaphylactic shock
71. Sepsis. Clinical presentation, diagnosis and intensive care
72. Diagnosis and intensive therapy of septic shock
73. Antibacterial therapy for severe infections. Principle of de-escalation therapy
74. Acute renal damage. Etiology, diagnosis, treatment
75. Hemodialysis. Principle of the method. Use in acute renal damage and chronic kidney disease
76. Peritoneal dialysis. Principle of the method
77. Extracorporeal purification of blood in intensive care (hemoadsorption, plasmapheresis, hemodiafiltration)

78. Acute hepatic failure. Etiology, diagnosis, treatment
79. Pathogenesis, diagnosis and treatment of DIC. Coagulopathies associated with drugs
80. Enteral and parenteral nutrition in intensive care. Calculation of the calorage. Procedure
81. Acute poisoning. Causes. Toxicokinetics and toxicodynamics of poison. Clinical stages of poisoning. Clinical syndromes. Diagnostics
82. Acute poisoning. General principles of treatment
83. Acute alcohol poisoning. Diagnosis, intensive care
84. Acute poisoning with alcohol substitutes (ethylene glycol, methanol). Diagnosis, intensive care
85. Acute poisoning with acetic acid. Diagnosis, intensive care
86. Acute poisoning with carbon monoxide (carbon monoxide). Diagnosis, intensive care
87. Acute poisoning with methaemoglobin-forming agents. Diagnosis, intensive care
88. Acute poisoning with psychotropic drugs. Diagnosis, intensive care
89. Acute poisoning with mushrooms. Diagnosis, intensive care. Poisoning pale toadstool
90. Poisoning by biological poisons (venom of snakes, jellyfish)