

Ministry of Health of the Republic of Belarus
Education establishment
«GOMEL STATE MEDICAL UNIVERSITY»
Department of Anesthesiology and Resuscitation Science

**A list of examination questions
in anesthesiology and resuscitation
for the 4th year students**

1. Anesthesiology and resuscitation: concept, aims, objectives. A history of anesthesiology and resuscitation.
2. Indications for hospitalization and transfer of patients in ICU.
3. Monitoring during elective and urgent surgery.
4. A standard of preoperative medical examination.
5. Medicamentous preparation of patients for surgery and narcosis.
6. Psychoprophylactic preparation of patients for surgery and narcosis.
7. Premedication and its objectives.
8. Drugs used for premedication.
9. Pain sensation pathways. Effects of pain on the functions of organism.
10. A definition for «general anesthesia».
11. Theories of general anesthesia.
12. Types of general anesthesia. Components of general anesthesia.
13. Stages of general anesthesia by Guedel and their clinical characteristic.
14. Inhalation anesthesia: concept, types, benefits and shortcoming.
15. Clinical and pharmacological characteristic of inhalation anesthetics.
16. Indications and contraindications for the drugs used for inhalation anesthesia.
17. Mask narcosis: indications, contraindications, complications and their prophylaxis.
18. Endotracheal narcosis technique (initial and basis narcosis, education).
19. Technique of endotracheal intubation.
20. Risks and complications of endotracheal narcosis, their prophylaxis and treatment.
21. Classification of types of noninhalation general anesthesia.
22. Noninhalation general anesthesia: a concept of «ideal» noninhalation general anesthetic.
23. Pharmacological characteristic of noninhalation anesthetics (propofol, ketamine, hexenal, thiopental sodium, oxybutirate sodium).
24. Risks and complications of noninhalation anesthesia, their prophylaxis and treatment.
25. Peripheral muscle relaxants. Classification, pharmacodynamics.
26. Clinical use of peripheral muscle relaxants. Risks and complications regarding their use.
27. A concept of mono- and multicomponent general anesthesia. Benefits of combined use of pharmacological agents.
28. Main periods of multicomponent balanced anesthesia: induction, maintenance, education.
29. Local anesthetics. Classification. Pharmacokinetics and pharmacodynamics.
30. Overdose of local anesthetics, its treatment.
31. Classification of local anesthesia.
32. Conduction anesthesia, types, indications and contraindications.
33. Spinal anesthesia. Technique, complications, their prophylaxis and treatment.
34. Epidural anesthesia. Technique, complications, their prophylaxis and treatment.
35. Complications of local anesthesia, their prophylaxis and treatment.
36. Phases of postoperative period.
37. Functional disorders in postoperative period, a role of pain syndrome in their development.
38. Metabolic acidosis, causes, diagnostics, treatment.

39. Respiratory acidosis, causes, diagnostics, treatment.
40. Metabolic alkalosis, causes, diagnostics, treatment.
41. Respiratory alkalosis, causes, diagnostics, treatment.
42. Classification of water balance and electrolyte disorders.
43. Hyperosmolar dehydration, clinics, diagnostics, treatment.
44. Isoosmolar dehydration, clinics, diagnostics, treatment.
45. Hyposmolar dehydration, clinics, diagnostics, treatment
46. Hyperosmolar hyperhydration, clinics, diagnostics, treatment.
47. Isoosmolar hyperhydration, clinics, diagnostics, treatment.
48. Hyposmolar hyperhydration, clinics, diagnostics, treatment.
49. Nutritional support. Indications, contraindications, objectives.
50. Types of nutritional support.
51. Enteral feeding technique.
52. Parenteral feeding technique.
53. A definition for «terminal state», stages.
54. Clinical death, biological death – definition, criteria.
55. A concept of complex cardiopulmonary cerebral resuscitation, it's phases by Safar.
56. Indications, contraindications for resuscitation.
57. Airway management during resuscitation.
58. Artificial ventilation «mouth to mouth», «mouth to nose», via bag valve mask or S- and T-shaped airway.
59. Cardiac massage. Methods, complications. Indicators of effective resuscitation.
60. Heart arrest, types, causes, symptoms, diagnostics.
61. Treatment of heart arrest with regard to it's cause.
62. Drugs used to restore heart activity, indications, routes of administration, doses.
63. Electropulse therapy: defibrillation, cardioversion, external electric cardiostimulation. Indications, technique.
64. Infusion therapy during resuscitation.
65. Indications for discontinuance of resuscitation.
66. Postresuscitation disease, definition, stages.
67. Hypertensive crisis, pathophysiology, intensive therapy.
68. Pulmonary thromboembolism. Etiology, pathogenesis, clinics, diagnosis.
69. Pulmonary thromboembolism, intensive therapy.
70. Classification of acute respiratory failure, main principles of therapy.
71. Indications for tracheostomy and conicotomy. Complications.
72. Oxygenotherapy: methods, indications.
73. Methods of artificial lung ventilation. Absolute and relative indications, technique. Complications of artificial lung ventilation, their prophylaxis and treatment.
74. Intensive therapy of asthmatic status.
75. Intensive therapy of severe pneumonia.
76. Inpatient pneumonia, etiology, pathogenesis, antibacterial therapy.
77. Acute respiratory distress syndrome: etiology, diagnostics, intensive therapy.
78. Aspiration syndrome, causes, prophylaxis and treatment.
79. A definition for «shock». Classification, principles of diagnostics and intensive therapy.
80. Traumatic shock, pathogenesis, intensive therapy.
81. Resuscitation and intensive therapy in burn shock.
82. Resuscitation and intensive therapy in septic shock.
83. Resuscitation and intensive therapy in hemorrhagic shock.
84. Resuscitation and intensive therapy in cardiogenic shock.
85. Resuscitation and intensive therapy in anaphylactic shock.
86. Intensive therapy in cardiac arrhythmias.
87. Intensive therapy of myocardial infarction, thrombolytic therapy.

88. Intensive therapy of acute left ventricular failure in myocardial infarction.
89. Classification of poisonings.
90. Main principles of treatment of acute poisonings.
91. Methods of artificial (extracorporal) detoxication.
92. Clinics, diagnostics and intensive therapy of alcohol poisoning.
93. Clinics, diagnostics and intensive therapy of poisoning with alcohol substitutes.
94. Clinics, diagnostics and intensive therapy of benzodiazepines and barbiturates poisoning.
95. Clinics, diagnostics and intensive therapy of opioid poisoning.
96. Clinics, diagnostics and intensive therapy of poisoning with organophosphorous compounds.
97. Clinics, diagnostics and intensive therapy of poisoning with chlorinated hydrocarbons.
98. Clinics, diagnostics and intensive therapy of cauterant liquids poisoning.
99. Clinics, diagnostics and intensive therapy of carbon monoxide poisoning.
100. Clinics, diagnostics and intensive therapy of fungi poisoning.
101. Clinics, diagnostics and intensive therapy of bites of venomous snakes and insects.