Themes of the reports for the students of the medical faculty on discipline
Pathophysiology, clinical pathophysiology
on 2017-2018 years

1. The role of free radical and peroxide damage responses in cells and the pathogenesis of human diseases.
2. Specific and non-specific markers of cell damage
3. The main causes, mechanisms of development and consequences of damage to cellular receptors.
4. The mutations and their role in human pathology.
5. Etiology, pathogenesis, principles of prevention and treatment of decompression disease.
6. The main causes, mechanisms and consequences of violations of vascular permeability.
7. The main causes, mechanisms of development and consequences of disorders of hemostasis.
8. Factors that ensure the integrity of the body. Barriers external and internal environment of the body (skin, mucous membranes, cell membranes, blood-tissue and blood-brain barrier) and their physico-chemical and physiological properties.
10. An analysis of the factors that determine the course and outcome of the inflammatory process.
11. Immunity as the regulatory system. The immune system of various organs
12. Etiology, pathogenesis and general clinical significance of immunopathological states.
15. Characteristics of the factors that cause allergic reactions and conditions predisposing to its occurrence.
16. Characteristics of the factors contributing to chronic acute infectious diseases.
17. Complications caused by fever (types, causes, mechanisms, manifestations, ways of prevention).
18. Pyrotherapy: pathophysiological rationale and use in modern medicine.
20. The causes, mechanisms of development, the basic principles of prevention and symptoms of altitude sickness.
21. The analysis of pathophysiological complications of hyperbaric oxygenation.
22. Hyperoxia: causes; its adaptive mechanisms and pathogenic effects.
23. The mechanisms of violations of anti-body resistance in diabetes.
24. The causes, mechanisms of development and consequences of hypercholesterolemia.
25. The modern concept of atherogenesis.
26. Disorders transport function of blood plasma proteins.
27. Protein-energy malnutrition (Kwashiorkor, nutritional marasmus, comparative hormonal and metabolic response).
29. Etiology, pathogenesis, symptoms and consequences of hypervitaminosis.
30. The role of antibodies to nucleic acids in the pathology.
31. Violations of the exchange purine and pyrimidine bases.
32. Etiology, pathogenesis and consequences of metabolic trace elements in the body.
33. Mechanisms of positive effects and possible complications of fasting.
34. Synthesis of oncoproteins as a mechanism of tumor formation atypism.
35. Modern concepts of carcinogenesis.
36. Natural antineoplastic mechanisms of the body, and the prospects for their activation for the prevention and treatment of cancer.
37. Immune responses antineoplastic resistance of the organism, causes and mechanisms of suppression of their activity in the development of malignant tumors.
38. Possible mechanisms for spontaneous regression ("self-healing"), malignant tumors.
39. Hemolysis of red blood cells: types, causes and mechanisms of development, the main manifestations and consequences.
40. The artificial oxygen carriers: Principles of development, perspectives of negative side effects.
41. Etiology, pathogenesis and features displays of various kinds thrombocytopeny.
42. The role of genetic factors in the etiology and pathogenesis of hematological malignancies.
43. Pathogenesis of reducing the body's anti-infective resistance in leukemia.
44. Pathogenesis of hereditary forms of hemorrhagic syndrome.
45. Etiology and pathogenesis vasopathy promoting occurrence of thrombotic and hemorrhagic syndromes.
46. Etiology, pathogenesis, and consequences of the main manifestations of disseminated intravascular coagulation.
47. "Consumption coagulopathy": conditions for the occurrence, mechanisms of development, consequences.
49. Myocardial remodeling in heart failure: the characteristic of the process, its main causes, mechanisms of formation, consequences, methods of medical correction.
50. Combined cardiac arrhythmias: types, etiology, pathogenesis, consequences, treatment principles.
51. Ischemic heart disease: the main causes, pathogenesis, symptoms, principles and methods of diagnosis, treatment and prevention.
52. The value of the phenomenon of reperfusion in acute coronary insufficiency.
53. Features hemodynamics in different types of hypertension.
54. Adaptation of the heart to hypoxia in acute coronary insufficiency.
55. The system of “renin-angiotensin-aldosterone system”, antidiuretic hormone; functioning normally, when the adaptive reactions of the organism and in the development of renal arterial hypertension.
56. The role of calcium ions in the pathogenesis of hypertension.
57. Reasons, mechanisms and the role of the remodeling of the heart and vessel walls in the development of hypertension.
59. The role of the surfactant system in the pathology of the lungs.
60. The value of hypo- and hypercapnia in pathology.
61. Etiology, pathogenesis and principles of treatment of pulmonary edema.
62. The pathogenesis of duodenal ulcer.
63. Pathogenesis of gastric ulcer.
64. Etiology, pathogenesis and manifestations of "pancreatic collapse."
65. The role of gastrointestinal hormones in the pathogenesis of eating disorders.
66. Pathogenesis, the main manifestations and consequences of hereditary enteropathy.
67. Hepatotropic poisons: forms, chemical characteristics, mechanisms of action on hepatocytes.
68. Pathogenesis of hemostasis disorders in the pathology of the liver.
69. "Kernicterus": etiology, pathogenesis, possible adverse effects and ways to prevent them.
70. The role of the immunological mechanisms in the origin and development of renal disease.
71. Compensatory processes in the kidney in chronic diffuse glomerulonephritis.
72. Value violations mechanisms of transport, excretion and metabolism of hormones in peripheral origin endocrinopathies
73. Etiology and pathogenesis of "peripheral" forms of endocrine disorders.
74. The value of auto-aggressive immune mechanisms in the occurrence of hypo- and hyperthyroidism.
75. Modern ideas about trophic nervous and neurodystrophy.
76. Pathological reflexes: origin, types, significance in the development of pathology.
77. Etiology and pathogenesis of pathological forms of pain.
78. Spastic syndrome: etiology, pathogenesis, consequences, treatment principles.
79. Analysis of biological and social factors that contribute to the emergence of substance abuse, drug addiction, alcoholism.
80. Pathophysiology of the states forming addictions, mental and physical dependence with substance abuse, drug addiction, alcoholism.
81. Mechanisms of disorders in conditions of abstinence.
82. Pathogenesis of somatic pathology in chronic alcoholism.
83. Stress as a cause of disease.
84. Biological Rhythms and human pathology.
85. Weather, health and disease (meteopathology and ways of its prevention).
86. Analysis of the general pathogenesis of various coma.
87. Etiology, pathogenesis, major manifestation, consequences and treatment principles crush syndrome.
88. Stages and mechanisms of the body of the dying process.
89. An analysis of the causes and consequences of post resuscitative pathology, ways of its prevention and treatment.
90. Pathophysiology of sleep disorders.

Chairman of Pathophysiology
Department, Professor

E.V. Shchetinin