**Faculty of Foreign Students**

**Examination program in Pharmacology**

**(2020-2021 academic year)**

**GENERAL PHARMACOLOGY.**

1. The content of pharmacology. Place of pharmacology among the medical and biological sciences.

2. Objectives and methods of pharmacology at the present stage of development of medicine.

3. The role of N.P. Kravkov's and I. P. Pavlov’s works in the development of domestic pharmacology.

4. RF State Pharmacopeia. Its content and purpose.

5. Rules of retention and prescribing of drugs, potent and poisonous substances.

6. The structure of the recipe. Forms of prescription forms. Requirements for formalization of recipes.

7. Pharmacodynamics of medicines. The concept of specific receptors, agonists and antagonists. Pharmacological (drug) effects.

8. The value of gender and age in the drug action. Dependence of effect from the pathological state of the organism.

9. Types of drug action (local, reflex, resorptive, direct, indirect, main, side, toxic).

10. The concept of dose. Types of doses. The therapeutic breadth of action of drugs.

11. Pharmacokinetics of drugs. Absorption, distribution, inactivation, excretion. Factors influencing the penetration of substances through biological membranes.

12. Routes of administration of drugs into the body, comparative characteristics and significance for the manifestation of pharmacological effect.

13. Сombined effect of drugs. Forms and clinical significance of the phenomenon of synergy and antagonism. Antidotal action.

14. Adverse and toxic reaction to drugs. Sensitization and idiosyncrasy. Teratogenicity and embryotoxicity.

15. Phenomena emerging during repeated administration of drugs. Tachyphylaxis, addictive, cumulation, drug dependency (psychic, physical)

16. Way of the drug from the laboratory to the bedside. Concept of the placebo and "blind" control in testing new drugs.

**PARTICULAR PHARMACOLOGY**

**AGENTS AFFECTING THE PERIPHERAL PART OF NERVOUS SYSTEM**

17. Agents for local anesthesia. Classification. Mechanism of action. Comparative evaluation of anesthetics. The choice of drugs for different types of anesthesia. Toxic effects of drugs. Measures for preventing it. Medications: Novocaine,Tetracaine, Lidocaine, Trimecaine, Anaesthesin.

18. Astringent, coating and adsorbent agents. Mechanism of action. Indications for use. Medications: Tannin, oak bark, starch, activated carbon.

19. Irritant drugs of nonselective action. Reflexes arising from the application of these drugs, and its importance in therapeutic effect. Practical use of drugs. Medications: Ammonia solution, purified Turpentine oil, mustard plasters, Menthol, Camphor alcohol.

20. The mechanism of transmission of nerve impulses in the cholinergic synapses. Localization and functional significance of the M- and H-cholinergic receptors. Classification of drugs, affecting the transmission of stimulation in cholinergic synapses.

21. Anticholinesterase drugs. Classification, mechanism of action and character. Comparative characteristics of drugs. Indications for use. Medications: Physostigmine salicylate, Neostigmine methylsulfas (Proserinum), Galantamine hydrobromide.

22. Toxicological significance of organophosphorous anticholinesterases. Clinical picture of poisoning. Aid measures. Acetylcholinesterase reactivators. Dipiroxim, Izonitrozine.

23. M-cholinomimetics. Mechanism of action. Effects on eye, visceral smooth muscle, gland secretion. Comparative characteristics of drugs. Indications for use. Picture of muscarine poisoning, aid. Medications: Pilocarpine hydrochloride, Aceclidine.

24. M-anticholinergic drugs. The alkaloid-containing plants. The mechanism of action. Effects on eyes, function of internal organs and central nervous system. Comparative characteristics of drugs. Indications for use. Medications: Atropine sulfate, Scopolamine hydrobromide, Platyphyllin tartrate, Metacin.

25. Acute poisoning by medications and plants containing atropine. Aid measures.

26. Group of N-cholinomimetic agents. The mechanism and the character of the influence on the organism. Comparative characteristics of drugs. Clinical use. Medications: cytitone, lobeline hydrochloride. ganglionic blocking agents. The mechanism of action and character. Comparative characteristics of drugs classification by duration of action indications. Toxic effects of nicotine. Medications: Cytisin (Cytitonum).

27. Ganglionic blocking agents. The mechanism of action and character. Comparative characteristics of the drug. Classification according to the duration of action. Indications for use. Medications: Benzogexonium, Pentamin, Hygronium.

28. Muscle relaxants. Classification. Comparative characteristics of drugs. Use in the clinic. Assistance measures in overdose. Medications: Ditilin, Tubocurarine chloride, Pancuronium bromide.

29. Mechanism of transmission of nerve impulse in the adrenergic synapses. Localization and functional significance of α and β-adrenergic receptors. Classification of drugs, affecting the transmission of stimulation in the adrenergic synapses.

30. Direct adrenergic agonists. Classification of influence on different types of adrenergic receptors.. Comparative characteristics of the action of drugs on the cardiovascular system, the bronchi, the metabolism. Use. Medications: Adrenaline hydrochloride, Norepinephrine tartrate, Phenylephrine, Naphthyzinum, Izadrin, Fenoterol, Salbutamol.

31. Indirect adrenergic agonists. Mechanism of action. Pharmacodynamics. Effects on the CNS. Use. Medications: Adrenaline hydrochloride.

32. Adrenergic blockers. Classification on the effect on different types of adrenergic receptors. Main effects and the use of drugs. Side effect. Preparations: Phentolamine hydrochloride, Prazosin, Propranolol, Atenolol.

33. Sympatholytics. Localization and mechanism of action and the main effects of drugs. Therapeutic use. Side effect. Medications: Reserpine, Octadine.

**SUBSTANCES AFFECTNG THE CENTRAL NERVOUS SYSTEM**

34. Agents for an inhalation narcosis. Possible mechanisms of synaptic action. Characteristics of status of anesthesia. Stages of anesthesia. The concept of modern anesthesia components. Significance of agents for narcosis in modern anesthesia.

35. Requirements to the agents for anesthesia. Comparative characteristics of drugs used for an inhalation narcosis. activity, speed of development of anesthesia, a consequence, the influence on the cardiovascular system and parenchymal organs, flammability. Indications for use. Medications: Ether, Halothane, Enflurane, nitrous oxide.

36. Agents for noninhalation narcosis. The routes of administration. Features of an inhalation narcosis compared to inhalation. Comparative characteristics of drugs activity, speed and duration of action, control, side effects. Medications: Thiopental sodium, Propanidid, Sombrevin, sodium hydroxybutyrate, Catamine.

37. The concept of base, initial, mixed and combined narcosis. The significance of combination of agents. for narcosis. Potentiation of narcosis. Agents used for different kinds of combinations and potentiation of action of anesthetic substances.

38. Hypnotics. Classification. Mechanisms of action. The effect on sleep structure. Comparative characteristics of preparations by force, speed and duration of action. Application. Side effects. Medications: Phenobarbital, Etaminal- sodium, Nitrazepam.

39. Side effects of hypnotics. Acute poisoning by hypnotics and principles of its pharmacotherapy.

40. Resorptive and local effects of ethyl alcohol. Application. Clinic and treatment of acute and chronic alcohol poisoning.

41. Opium. Sources of producing. Formulation. Pharmacological characterization of opium alkaloids. Indications for use of Omnopon.

42. Morphine. The mechanism of analgesic effect. Point of influence on medulla centers and gastrointestinal tract. Indications for use.

43. Synthetic substitutes of morphine. Mechanism of action. Comparative characteristics of drugs. Clinical application. Medications: Promedol, Pentazopine, Fentanyl. The concept of neuroleptanalgesia.

44. Side effects of opioid analgesics. Acute poisoning by opioid analgesics. Principles of pharmacotherapy. Nalorfine.

45. Non-narcotic analgesics. Features of analgesic effect. Mechanisms of analgesic, anti-inflammatory and antipyretic effects. Indications for use. Side effects. Medications: Acetylsalicylic acid, Paracetamol, Analgin.

46. Neuroleptic agents of phenothiazine series. The mechanism of central and peripheral action. Characteristics of the main effects. Clinical application. Side reactions. Medications: Aminazine, Triphtazinum.

47. Neuroleptic agents of butyrophenone derivatives. Mechanism of action. Pharmacological effects. Indications for use. Medications: Haloperidol, Droperidol. The concept of neuroleptanalgesia.

48. Tranquilizers - anxiolytics and sedatives. Features and mechanism of action of each group. Comparative characteristics of drugs. Indications for use. The concept of ataralgesia. Medications: Diazepam, Sibazon, Phenazepamum, Valerian tincture, sodium bromide.

49. Drugs for the relief of cramps. The mechanism of action and comparative characteristic of medications. Antiepileptics. Evaluation of the effectiveness of individual drugs in various forms of epilepsy. Medications: Phenobarbital, Phenytoin, sodium valproate, Ethosuximide, Carbamazepine, Diazepam, Droperidol, Natrium oxybutyricum, magnesium sulfate, Chlorohydrate.

50. Antiepileptics. Possible mechanisms of action. The effectiveness of individual drugs in various forms of epilepsy. Medications: Phenobarbital, Phenytoin, Ethosuximide, Carbamazepine, sodium valproate.

51. Drugs for treatment of Parkinson's disease. Principles of correction of extrapyramidal disorders. Side effects of medications. Medications: Cyclodol, Levodopa, Midantan.

52. Substances stimulating the central nervous system. Psychostimulants. Characteristics of psychostimulant effect. Effect on cardiovascular system. Indications for use. Side effects. Medcations: Caffeine, Meridilum, Sydnocarb.

53. Nootropics. The effect on metabolic processes in the central nervous system and higher nervous activity. Indications for use. Medications: Piracetam.

54. Substances stimulating the central nervous system. Classification. Antidepressants. Mechanism of action. Comparative evaluation of individual drugs. Antidepressant, psychostimulant, sedative action. Side effects. Preparations: Imivin, Amitriptyline, Fluoxetine.

55. Analeptics. The mechanism of influence on breathing and circulation. Comparative characteristics of drugs. Indications for use. Poisoning by analeptics. Aid measures. Medications: Caffeine, Cordiamin, Bemegride, Camphor oil solution.

**SUBSTANСES AFFECTING THE FUNCTIONS OF EXECUTIVE ORGANS.**

56. Cardiac glycosides. Sources of producing. Classification. Pharmacodynamics. The mechanism of cardiotropic action. The essence of the therapeutic effect of cardiac glycosides in cardiac decompensation. Medications: Digitoxin, Digoxin, Strofanthin, Corglycon.

57. Medications of digitalis. Pharmacokinetics. Elimination coefficient. Comparative characteristics of drugs. Application. Medications: Digitoxin, Digoxin.

58. Medications of Strofanthin and lily-of-the-valley. Elimination coefficient. Differences from digitalis preparations. Indications for use. Preparations: Strofanthin, Corglycon.

59. Cardiac agents of non-glycoside structure. Dobutamine. Cardiotonic mechanism of action. Indications for use.

60. The clinic, prevention and treatment of cardiac glycosides intoxication. Preparations: Potassium chloride, Digibid, Phenytoin, Lidocaine.

61. Agents for treatment of tachyarrhythmia. Classification by mechanism of action. Indications for use. Side effects. Preparations: Quinidine sulfate, Procainamide, Lidocaine, Phenytoin, Propranolol, Verapamil, Amiodarone.

62. Agents, used for blockade of the conducting system of heart. Principles of action. Preparations: β-agonists, muscarinic antagonists, glucocorticoids, potassium-uretic diuretics.

63. Antihypertensive agents. Classification by mechanism of action. Antiadrenergic agents. The mechanism of action of basic medicines. Comparative antihypertensive activity, speed, duration of action of drugs. Indications for use. Side effects. Preparations: Clonidine, Methyldopa, Prazosin, Reserpine, Propranolol.

64. Antihypertensive agents. Classification by mechanism of action. Peripheral vasodilators and inhibitors of the renin-angiotensin system. Mechanism of action. Indications for use. Side effects. Preparations: Natrii nitroprussidum, Diazoxide, Minoxidil, Captopril, Losartan.

65. Drugs for the angina treatment. Classification of mechanism of action. Nitrates. Mechanism of action. Indications for use. Side effects. The drugs: Nitroglycerin, Sustaс, Nitrogranulong, Nitrosorbide.

66. Drugs for the angina treatment. Classification by the mechanism of action. Adrenergic blockers and calcium antagonists. Mechanism of action. Indications for use. Side effects. Preparations: Propranolol, Atenolol, Verapamil.

67. Agents that increase blood pressure. The mechanism of action of major groups of drugs. Comparative activity, speed and duration of action. Agents for acute and chronic hypotension treatment. Preparations: preparations of ginseng, Chinese magnolia vine, Caffeine, sodium benzoate, Сordiamin, Camphor dissolved in oil, Norepinephrine tartrate, Phenylephrine, Ephedrine hydrochloride, Angiotensinamid.

68. Diuretics. Classification by potency. Powerful diuretics. Mechanism of action. Comparative characteristics of drugs by strength, speed, duration of action. Indications for use. The major side effects, its prevention and treatment. Preparations: Furosemide, Buphenox, Ethacrynic acid.

69. Diuretics. Classification by potency. Moderate diuretics. Mechanism, strength, speed and duration of action. Indications for use. The major side effects, its prevention and treatment. Preparations: Hypothiazid, Mannitol.

70. Diuretics. Classification by potency. Weak diuretics. Mechanism of action. Indications for use. The major side effects. Preparations: Spironolactone, Triamterene.

71. Substances used in the dehydration and elimination of violations of the acid-alkaline balance. Comparative characteristics of drugs. Preparations: isotonic solutions of glucose, sodium chloride, sodium bicarbonate, Locke-Ringer solution, Polyglycine, sodium lactate, Trisamine.

72. Agents stimulating erythropoiesis. Classification. The mechanism of action and indications the use. Preparations: ferrous lactate, Ferсoven, Coamidum, Cyanocobalamin, Folic acid.

73. Agents stimulating leucopoiesis. Mechanism of action. Indications for use. Preparations: Pentoxyl sodium nuсleinate.

74. Agents depressing leucopoiesis. Classification of antileukemic (anticancer) drugs. The mechanism of action of major groups of drugs. Indications for use. Side effects. Preparations: Myelosan, Cyclophosphamide, Mercaptopurine, Methotrexate, Fluorouracil, Vincristine.

75. Agents preventing blood clotting. Classification. The mechanism of action and comparative description of the direct and indirect anticoagulants. Indications and contraindications for use. Measures to combat overdose of heparin and neodiсoumarin. Preparations: Heparin, Neodicoumarin, Phenilyn, Acetylsalicylic acid, Dipiridamol, Ticlopidine.

76. Substances that promote blood clotting. The mechanism of action of drugs. Indications for use. Preparations: Vicasol, Thrombin, Fibrinogen.

77. Agents acting on the processes of fibrinolysis. Classification. Mechanism of action. Indications for use. Preparations: Streptoliase, Fibrinolysin, Contrycal, Aminocaproic acid.

78. Bronchodilators. Classification by mechanism of action. Comparative characteristics of drugs. Agents for the relief and prevention of asthma attacks. Preparations: Isadrin, Adrenaline hydrochloride, Salbutamol, Ipratropium bromide, Theophylline, Cromolyn-sodium.

79. Agents, which influence on the tone and contractile activity of the myometrium. Classification. Pharmacological characteristic of ergot drugs, indications. Substitutes of ergot drugs. Agents used to induce labor. Mechanism of action. Preparations: Ergometrine maleate, Pituitrin, Oxytocin, Synoestrol, Neostigmine, Dinoprost.

80. Expectorants. Localization and mechanism of action of these drugs. Indications for use. Preparations: infusion of Thermopsis herb, ammonia-anise drops, sodium bicarbonate, Acetylcysteine, potassium iodide, Trypsin-crystal.

81. Antitussive agents. Mechanism of action. Indications for use. Meaning of combination with expectorants. Preparations: Codeine phosphate, Libexin.

82. Principles of pharmacologic intervention in pulmonary edema. The mechanism of action of drugs. Preparations: Strophantin, Dobutamine, Nitroglycerin, Furosemide, Ethyl alcohol.

83. Agents that increase and decrease appetite. Mechanism of action. Side effects. Preparations: tincture of wormwood, Desopimon, Mazindol.

84. Emetic and antiemetic agents. Mechanism of action. Indications for use. Preparations: Apomorphine hydrochloride, Etaperazin, Scopolamine hydrobromide, tablets "Aeron".

85. Agents used in violation of the functions of stomach glands. Drugs of substitute therapy and antacids. Mechanism of action. Indications for use. Side effects. Preparations: Pepsin, Hydrochloric acid diluted, Festal, Sodium bicarbonate, Magnesium oxide, Aluminum hydroxide, Almagel.

86. Agents decreasing secretion of the stomach glands (antisecretory agents). Mechanism of action. Indications for use. Side effects. Preparations: Cimetidine, Ranitidine, Pirenzepine, Omeprazole.

87. Gastroprotectives protecting gastric and duodenal mucosa. Mechanism of action. Indications for use. Preparations: De-Nol, Sucralfate.

88. Agents depressing and enhancing motility of the gastrointestinal tract. Mechanism of action and comparative characteristic of preparations. Indications for use. Preparations: Atropine sulfate, Papaverine hydrochloride, No-spa, Aceclidine, Neostigmine.

89. Laxatives. Classification. The mechanism of action and comparative characteristics of different groups of laxatives. Features of the application. Preparations: Magnesium sulfate, Sodium sulfate, Castor oil, mineral oil, liquid extract of buckthorn, rhubarb root powder, Izafenin, Phenolphthalein.

90. Сholeretics. Classification by mechanism of action. Characteristics of the main drugs. Indications for use. Preparations: Dehydrocholicum acid, Oxaphenamide, Magnesium sulfate, Atropine sulfate, Papaverine hydrochloride.

**SUBSTSNCES AFFECTING IMMUNE AND INFLAMMATORY PROCESSES**

91. Steroidal anti-inflammatory agents. Mechanisms of anti-inflammatory action. Application. Side effects. Preparations: Hydrocortisone, Prednisolone, Triamcinolone, Dexamethasone, Flumethasoni pivalas, Synaflan, Beclomethasone.

92. Non-steroidal anti-inflammatory agents. Mechanisms of anti-inflammatory, antipyretic and analgesic action of drugs. Indications for use. Side effects. Drugs: Acetylsalicylic acid, Indomethacin, Ibuprofen, Naproxen, Diclofenac sodium, Meloxicam, Сelecoxibum.

93. Immunosupressive agents. Indications for use, side effects. Preparations: Azathioprine, Tacrolimus, Prednisolone.

94.Immunomodulators. Mechanism of action. Indications for use. Preparations: Taktivin, Thymogen, Levamisole.

95. Preparations for the treatment of anaphylactic disorders. Classification by mechanism of action. Mechanisms of formation of anti-allergic effect. Indications for use. Side effects. Preparations: glucocorticoids, agonists, Theophylline, Euphyllin, Cromolyn sodium.

96. Blockers of H-histamine receptors. The mechanism of anti-allergic effect. Indications for use. Side effects. Preparations: Diphenhydramine, Promethazine, Suprastin, Phencarolum, Diazolin.

**SUBSTANCES WTH A PREDOMINANT INFLUENCE ON THE PROCESSES OF TISSUE METABOLISM**

97. Hormones of the anterior lobe of hypophysis. Effect on the function of endocrine glands. Indications for use. Preparations: Corticotropin.

98. Preparations of posterior hypophysis. Mechanism of action. Indications for use. Preparations: Pituitrin, Oxytocin, Vasopressin.

99. Preparations of insulin and synthetic hypoglycemic agents. Mechanism of action. Application. Acute insulin poisoning and aid measures. Medications: Insulin, Butamide, Glyburide, Glibenclamide.

100. Preparations of hormones of the adrenal cortex. Classification. The effect on metabolism, structure of various tissues, reactions of the organism. Mechanism of the main pharmacological effects. Comparative characteristics of drugs. Application. Side effects. Preparations: Deoxycorticosterone acetate, Hydrocortisone acetate and its synthetic substitutes.

101. Preparations of male sex hormones. Effects on the organism, use. Anabolic steroidal and nonsteroidal agents, mechanism of action, clinical use, side effects. Preparations: Testosterone propionate, Methyltestosterone, Methandrostenolone, Phenobolil, Retabolil, Potassium orotate.

102. Natural and synthetic drugs of female sex hormones. The physiological significance of estrogen and progestogen. The therapeutic use. Preparations: Estrone, Sinoestrol, Diethylstilbestrol, Progesterone.

103. The preparations of thyroid hormones. Mechanism of action. Effects on the metabolism. Indications for use. Preparations: Thyroxine, Triiodothyronine hydrochloride, Calcitonin.

104. Antithyroid drugs. Pharmacodynamics of merkazolilum. Application. Side effects. Preparations: Mercazolilum, potassium iodide, iodine alcohol solution, Diiodotyrosine.

105. Enzyme preparations. Preparations of digestive glands. Practical use of proteases, depolymerases, nucleic acids and hyaluronidase preparations. Preparations: Feotal, Pepsin, Pancreatin, Panzinorm, Trypsin, Chymotrypsin, Crystalline, Fibrinolysin, DNA-ase, RNA-ase, Lipase.

106. Inhibitors of proteolytic enzymes. The principles of action. Practical use of drugs. Preparations: contrycal, aminocaproic acid.

107. Ascorbic acid. Ruthin. Biological role. Clinical application. The phenomenon of ascorbic acid hypervitaminosis.

108.Preparations of vitamins B1, B3, B6. The biological role. Indications for use. Complications of thiamine therapy. Preparations: Thiamine bromide, сocarboxylase, calcium pantothenate, Pyridoxine.

109. The biological role of riboflavin and nicotinic acid. Indications for use. Influence of nicotinic acid on vascular tone. Preparations: Riboflavin, Nicotinic acid, Nicotinamide.

110. Preparations of vitamin D. The biological role. Indications for use. The phenomenon of hypervitaminosis. Hormonal preparations for regulation of calcium and phosphorus metabolism. Preparations: cod-liver oil, Ergocalciferol dissolved in oil and alcohol, Parathyroidin, Thyrocalcitonin.

111. Preparations of vitamin A, mechanism of action, application. The phenomenon of hypervitaminosis. Preparations: solution of retinol acetate in the oil.

112. The biological role of tocopherol. The practical use.

113. Anti-atherosclerotic agents. Classification. The mechanism of influence on the exchange of cholesterol and lipoproteins. Application in different types of hyperlipidemia. Side effects. Preparations: Lovastatin, Cholestyramine, Parmidin, Nicotinic acid.

114. Salts of alkali and alkaline earth metals. Features of action. Application. Preparations: Sodium chloride, Calcium gluconate, Magnesium sulfate, Barium sulfate.

115. Acids and alkalis. Effect on the skin and mucous membranes. Effect on the function of gastrointestinal tract. Application. The use of alkaline compounds to correct acid-alkaline balance. Acute poisoning by acids and alkalis, principles of its treatment. Preparations: Hydrochloric acid, dilute sodium bicarbonate, Magnesium oxide, Boric acid, Salicylic acid.

**ANTIBACTERIAL AND ANTIPARASITIC AGENTS**

116. The concept of disinfectant, antiseptic and chemotherapeutic action of drugs. Principles of modern chemotherapy.

117. Sulfanilamide preparations. The mechanism and a spectrum of antibacterial action. Indications for use. Complications and prevention measures. Preparations: Sulfadimezin, Sulfacyl-sodium Sulfadimethoxine, Phthalazolum, Biseptol.

118. Penicillin. Natural and semi-synthetic. Mechanism of action. The spectrum of action. The duration of action and dose of drugs. Indications for use. Complications and measures for its prevention and elimination. Preparations: Benzylpenicillin sodium, Benzylpenicillin novocaine salt, Bicillin, Oxacillin sodium, Ampicillin trihydrate, Amoksiklav.

119. Cephalosporins. Mechanism and spectrum of antimicrobial action. Indications for use. Side effects. The drugs: Cephalexin, Cephaloridine, Cefotaxime.

120. Antibiotics of tetracycline series. Mechanism of action. Dosing. Application. Side effects. Preparations: Tetracycline, Metacycline, Doxycycline.

121.Fluoroquinolones. Mechanism of action. The spectrum of action. Indications for use. Side effects. Preparations: Ofloxacin, Ciprofloxatin, Perfloxacin.

122. Macrolide antibiotics. Mechanism of action. The spectrum of action. Indications for use. Preparations: Erythromycin, Azithromycin, Roxithromycin.

123. Antibiotics-aminoglycosides. Mechanism and spectrum of activity. Comparative characteristics of drugs. Indications for use. Side effects. Preparations: Neomycin sulfate, Streptomycin sulfate, Monomycin, Kanamycin, Gentamycin, Amikacin, Netromycin.

124. Polymyxin. The mechanism and spectrum of activity. Indications for use.

125. General principles of antibiotic therapy.

126. Complications of antibiotic therapy, its prevention.

127.Antituberculosis drugs. Classification by activity. Mechanism of action and spectrum of essential medicines. Features of the application. Side effects. Preparations: Rifampicin, Isoniazid, Ethambutol, Streptomycin sulfate, Ofloxacin, Lomefloxacin.

128. Antifungal antibiotics. Mechanism and spectrum of activity. Indications for use. Preparations: Nystatin, Amphotericin B, Griseofulvin, Ketoconazole.

129. Synthetic antifungals- naphthyridine, nitrofuran and 8-hydroxyquinoline derivatives. The spectrum of antimicrobial action of drugs. Indications for use. Side effects. Preparations: Nalidixic acid, Furazolidone, Furacilin, Enteroseptol, Nitroxoline.

130. Antiseptics and disinfectants. Classification. Preparations of aromatic and aliphatic series, colorants, acids and alkalis, detergents. Mechanism of action and comparative description of the main drugs. Application. Preparations: Phenol, pure birch tar, Ichthyol, Ethyl alcohol, Formaldehyde, Boric acid, Ammonia solution, Brilliant green, Methylene blue, Ethacridine lactate.

131. Halogenated and oxygen-giving antiseptics. Characteristics of the main drugs. Practical use. Preparations: Alcohol solution of iodine, Chloramine B, Hydrogen peroxide, Potassium permanganate.

132. General characteristics of local and resorptive action of heavy metal salts. Conditions defining antimicrobial activity. Preparations: Mercury dichloride, Zinc sulfate, Zinc oxide. Acute and chronic mercury drugs poisoning. Aid measures.

133. Antisyphyllitic drugs. The mechanism of action of benzylpenicillin and bismuth drugs. Side effects. Preparations: Benzylpenicillin sodium salt, Bicillin 1,3,5, Biiochinolum.

134. Antiviral agents. Direction and the main mechanisms of action of drugs. Application. Preparations: Oxoline, Rimantadine, Acyclovir, Azidothymidin.

135. Agents for intestinal helminthiasis treatment. Classification. Comparative characteristics and features of the use of drugs. Preparations: Piperazine Adipate, Naphtamon, Levamisole, an extract of male fern, Fenasal, Mebendazole.

136. The basic principles of treatment of acute medication poisoning.

**Note:**

1. In questions of examination tickets list of drugs is not given.

2. In each examination ticket you are suggested to formalize prescriptions and give indications for 3 drugs for the evaluation of knowledge in the medical formulation. Factory packaging of finished dosage forms is given.

**LIST OF PREPARATIONS OF WHICH YOU NEED TO BE ABLE TO MAKE PRESCRIPTION FORMS in different dosage forms**

(Necessary knowledge of doses and concentrations of solutions for external use. Factory packaging of finished dosage forms is given)

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| 1. Adrenaline (Adrenalini hydrochloridum) 2. Allochol (Allocholum) 3. Almagel 4. Aminazine (Aminazinum) 5. Analgin (Analginum) 6. Aminophylline (Aminophyllinum) 7. Ampicillin (Ampicillinum) 8. Anaprilin (Anaprilinum) 9. Atropine sulfate (Atropini sulfas) 10. Bemegride (Bemegridum) 11. Benzylpenicillin sodium (Benzylpenicillinum natrium) 12. Brilliant green (Viride nitens) 13. Validol (Validolum) 14. Vicasol (Vicasolum) 15. Gentamicin (Gentamycinum) 16. Heparin sodium (Heparinum natrium) 17. Glucose, isotonic solution (Glucosum) 18. Diazepam (Diazepamum) 19. Dibazolum (Dibasolum) 20. Digoxin (Digoxinum) 21. Diphenhydramine (Dimedrolum) 22. Hydrochlorothiazide (Hydrochlorothiazidum) 23. Ferrous Lactate (Ferri lactas) 24. Isoniazid (Isoniazidum) 25. Insulin (Insulinum) 26. Iodine (spirituous solution) (Solutio Iodi spirituosa) 27. Captopril (Captoprilum) 28. Calcium gluconate (Calcii gluconas) 29. Calcium chloride (Calcii chloridum) 30. Ascorbic acid (Acidum ascorbinicum) 31. Acetylsalicylic acid, (Acidum acetylsalicylicum) 32. Nicotinic acid (Аcidum nicotinicum) 33. Salicylic acid (Acidum salicylicum) 34. Boric acid (Acidum boricum) 35. Hydrochloric acid (Acidum hydrochloricum) 36. Clonidine (Clonidinum) 37. Corticotropine (Corticotropinum) 38. Codeine phosphate (Codeini phosphas) 39. Nikethamide, Cordiamin (Cordiaminum) 40. Corglycon (Corglусоnum) 41. Caffeine-sodium benzoate (Coffeinum-natrii benzoas) 42. Levamisole (Levamisolum) 43. Magnesium sulfate (Magnesii sulfas) 44. Сastor oil (Oleum Ricini) 45. Mesaton (Mesatonum) 46. Metronidazole (Metronidazolum) 47. Morphine hydrochloride (Morphini hydrochloridum) 48. Valerian tincture (Tinctura Valerianae) 49. Belladonna Tincture (Tinctura Belladonnae) 50. Lily of the valley tincture (Tinctura Convallariae) 51. Sodium bromide (Natrii bromidum) 52. Sodium hydrocarbonate (Natrii hydrocarbonas pro injectionibus) 53. Sodium chloride isotonic (Solutio Natrii chloridi isotonica) | 1. Ethyl biscoumacetate (Neodicumarinum) 2. Nystatin (Nystatinum) 3. Nitroglycerin (Nitroglycerinum) 4. Novocaine (Novocainum) 5. Novocainamide (Novocainamidum) 6. Noradrenaline hydrotartrate (Noradrenalini hydrotartras) 7. No-Spa (Nospanum) 8. Oxacillin (Oxacillinum) 9. Omeprazole (Omeprazolum) 10. Omnopon (Omnoponum) 11. Papaverine (Papaverini hydrochloridum) 12. Panangin 13. Pentoxyl (Pentoxylum) 14. Pilocarpine hydrochloridе (Pilocarpini hydrochloridum) 15. Piperazine adipinate (Piperazini adipinas) 16. Platyphylline (Platyphyllini hydrotartras) 17. Prednisolone (Prednisolonum) 18. Progesterone (Progesteronum) 19. Neostigmine methylsulfas (Proserinum) 20. Promedol (Promedolum) 21. Reserpine (Reserpinum) 22. Retinol acetate (Retinoli acetas) 23. Riboflavin (Riboflavinum) 24. Rifampicin (Rifampicinum) 25. Salbutamol (Salbutamolum) 26. Ethanol (Spiritus aethylicus) 27. Strophanthin-K (Strophanthinum K) 28. Sulfamethoxypyridazine (Sulfapyridazinum) 29. Sulfacetamide (Sulfacetamidum) 30. Testosterone propionate (Testosteroni propionas) 31. Tetracycline (Tetracyclinum) 32. Thiamin (Thiamini bromidum) 33. Herba Thermopsidis (infusum) 34. Herba Adonidis vernalis (infusum) 35. Unithiol (Unithiolum) 36. Phenobarbital (Phenobarbitalum) 37. Phenolphthalein (Phenolphthaleinum) 38. Phthalylsulfathiazole (Phthalazolum) 39. Furosemide (Furosemidum) 40. Furacilin (Furacillinum) 41. Chloral hydrate (Chloralum hydratum) 42. Cyanocobalamin (Cyanocobalaminum) 43. Zinc sulfate (Zinci sulfas) 44. Cystone 45. Cytisin (Cytitonum) 46. Belladonna extract (Extractum Belladonnae)   100.Ergocalciferol (Ergocalciferolum)  101.Ethacridine lactate (Aethacridini lactas)  102.Ephedrine hydrochloride (Ephedrini hydrochloriidum) |

**YOU NEED TO KNOW AND BE ABLE TO PRESCRIBE AGENTS OF FIRST AID**

**for the following indications:**

1. Acute heart failure.

2. Acute vascular insufficiency.

3. An attack of angina.

4. Hypertensive crisis.

5. Sudden respiratory depression.

6. Acute renal colic.

7. Hypoglycemic coma.

8. Hyperglycemic coma.

9. Poisoning by barbiturates.

10. Poisoning by organophosphorus insecticide.

11. Poisoning by convulsive poison.

12. Traumatic shock.

13. Poisoning by henbane.

14. Poisoning by cardiac glycosides.

15. Myocardial infarction.

16. Anaphylactic shock