

Materials for the Pharmacology Exam
Semester 5 – Third-Year Students,
Study Program 0912.1 Medicine
Academic Year 2025–2026

General Pharmacology

1. Identify the subgroups of drugs according to the World Health Organization classification
2. Specify the characteristics of the notion of drug as defined by the World Health Organization
3. Identify the characteristic(s) of original drugs
4. Identify the characteristic(s) of generic drugs
5. Identify the characteristic(s) of orphan drugs
6. Identify the characteristic(s) of OTC drugs
7. Identify the pharmacokinetic parameters
8. Specify the absorption parameter(s)
9. Indicate the advantage(s) of the sublingual route of administration
10. Indicate the advantage(s) of the rectal route of administration
11. Identify the mechanisms of drug absorption
12. Recognize the particularity/particularities of absorption of drugs with acidic and alkaline properties depending on the pH of the environment
13. Identify the mechanisms of drug penetration through membranes and barriers
14. Recognize the particularity/particularities of passive diffusion of drugs
15. Recognize the particularity/particularities of active transport of drugs
16. Specify the particularity of pinocytosis as a mechanism of drug transport
17. Identify the mechanisms of transport across the blood-brain barrier
18. Identify the mechanisms of drug transport through mammary gland epithelium
19. Identify the mechanisms of drug transport through the placenta from mother to fetus
20. Recognize the particularities of the free fraction of drugs
21. Recognize the particularities of the bound fraction of drugs
22. Identify the pharmacokinetic parameters of drug distribution
23. Identify the pharmacokinetic parameters of drug metabolism
24. Identify the enzymes involved in the drug conjugation process
25. Select the most important cytochrome P-450 isoenzymes involved in drug metabolism
26. Specify the main significance of the metabolism of most drugs
27. Identify the consequences of induction of hepatic microsomal enzymes
28. Identify the consequences of suppression of hepatic microsomal enzymes
29. Identify the types of drug metabolizers
30. Identify the mechanisms of renal drug elimination
31. Recognize the particularity/particularities of elimination of acidic and basic drugs depending on urine pH
32. Specify the pharmacokinetic parameter(s) characteristic of drug excretion
33. Specify the significance of the drug half-life
34. Define the notion of drug elimination coefficient
35. Specify the characteristic of pharmacogenomics
36. Identify the parameters of pharmacodynamic action
37. Define the notion of primary drug action
38. Define the notion of pharmacodynamic action of drugs
39. Define the notion of overall pharmacological effect of drugs
40. Identify the typical mechanisms of drug action
41. Recognize the phenomena of combined drug administration
42. Recognize the phenomena of repeated drug administration
43. Recognize the phenomena of abrupt drug withdrawal
44. Identify the drug safety parameters

45. Identify the undesired effects of drugs during pregnancy
46. Select the groups of drugs with very dangerous teratogenic action
47. Identify the types of drug antagonism
48. Recognize the phenomena of drug dependence
49. Define the therapeutic index
50. Define the therapeutic range

Vegetotropic drugs

Cholinergic drugs

1. Select the anticholinesterase drug(s) with moderately reversible action
2. Select the anticholinesterase drug(s) with irreversible action
3. Identify the M-cholinomimetic used in intestinal atony
4. Indicate the effects of M-cholinomimetics on the eye
5. Specify the mechanism(s) of miosis after administration of M-cholinomimetics
6. Specify the mechanism(s) of M-cholinomimetics on visual accommodation
7. Specify the mechanism(s) of M-cholinomimetics on intraocular pressure
8. Indicate the effects of M-cholinomimetics on the digestive tract
9. Indicate the effect of M-cholinomimetics on the bronchi
10. Indicate the effect of M-cholinomimetics on the urinary system
11. Recognize the symptoms of M-cholinomimetic intoxication
12. Select the group of drugs used in M-cholinomimetic intoxication
13. Recognize the symptoms of intoxication with organophosphorus compounds
14. Identify the phases of intoxication with organophosphorus compounds
15. Select the drugs used in intoxication with organophosphorus compounds
16. List the indications of anticholinesterase drugs
17. Specify the characteristics of the phases of N-cholinomimetic action
18. Select the M-cholinoblocker(s) with antispasmodic effect
19. Indicate the effects of M-cholinoblockers on the eye
20. Indicate the effects of M-cholinoblockers on the digestive tract
21. Indicate the effect(s) of M-cholinoblockers on the respiratory system
22. Indicate the effect(s) of M-cholinoblockers on the cardiovascular system
23. Indicate the effect(s) of M-cholinoblockers on the urinary system
24. Identify the intoxication(s) in which M-cholinoblockers are used
25. Recognize the CNS symptoms in M-cholinoblocker intoxication
26. Recognize the eye symptoms in M-cholinoblocker intoxication
27. Recognize the skin symptoms in M-cholinoblocker intoxication
28. Select the group of drugs used in M-cholinoblocker intoxication
29. Select the M-cholinoblocker of choice in fundus examination
30. Select the M-cholinoblockers used in broncho-obstructive diseases
31. Select the M-cholinoblocker recommended for motion sickness prevention
32. Select the M-cholinoblocker(s) used in intestinal and biliary colics
33. Identify the short-acting ganglioblocker
34. Identify the medium-acting ganglioblocker
35. Select the ganglioblocker(s) used in controlled hypotension
36. Recognize the adverse reaction(s) of ganglioblockers
37. Select the non-depolarizing muscle relaxant(s)
38. Identify the depolarizing muscle relaxant
39. Identify the short-acting muscle relaxant
40. Select the muscle relaxant used for tracheal intubation
41. List the indications of muscle relaxants
42. Identify the drug group for reversal of non-depolarizing muscle relaxants
43. Specify the principle of reversal of depolarizing muscle relaxants

Adrenergic drugs

44. Identify the alpha-beta adrenomimetics
45. Identify the centrally acting alpha-2 adrenomimetic(s)
46. Identify the peripherally acting alpha-2 adrenomimetic(s)
47. Identify the beta-2 adrenomimetics
48. Identify the beta-1 adrenomimetic
49. Identify the alpha-1 adrenomimetics
50. Identify the centrally acting alpha-2 adrenomimetic
51. Identify the adrenomimetics that contribute to mediator release
52. Identify the adrenomimetics that inhibit mediator reuptake
53. Identify the adrenomimetic with a mixed mechanism of action
54. Specify the mechanisms of action of ephedrine
55. Select the adrenergic drug(s) that increase blood pressure
56. Select the adrenergic drug(s) with stimulatory effects on the heart
57. Select the adrenergic drug(s) that lower blood pressure
58. Select the adrenergic drug(s) that produce bronchodilation
59. Select the adrenergic drug(s) that increase glucose levels
60. Select the adrenergic drug(s) that reduce microcirculation
61. Indicate the effects of alpha-beta adrenomimetics on the heart
62. Indicate the effects of alpha-beta adrenomimetics on vessels
63. Indicate the effects of alpha-beta adrenomimetics on blood pressure
64. Indicate the effects of alpha-adrenomimetics on blood pressure
65. Indicate the effects of alpha-beta adrenomimetics on microcirculation
66. Indicate the effects of alpha-adrenomimetics on microcirculation
67. Indicate the effects of alpha-beta adrenomimetics on the respiratory system
68. Indicate the effects of alpha-beta adrenomimetics on metabolism
69. Indicate the effects of beta-adrenomimetics on the heart
70. Indicate the effects of non-selective beta-adrenomimetics on vessels
71. Indicate the effects of alpha-adrenomimetics on vessels
72. Indicate the effect of dopamine at high doses
73. Indicate the effect of dopamine at low doses
74. Indicate the effect of dopamine at medium doses
75. Indicate the effects of beta-adrenomimetics on metabolism
76. Indicate the effects of beta-adrenomimetics on the respiratory system
77. Indicate the effect of alpha-adrenomimetics on the heart
78. Specify the mechanism of bradycardia induced by alpha-adrenomimetics
79. Identify the phases of epinephrine action on blood pressure
80. Identify the phase of norepinephrine action on blood pressure
81. List the indications of alpha-beta adrenomimetics
82. Indicate the indication(s) of alpha-adrenomimetics
83. Indicate the indication of peripherally acting alpha-2 adrenomimetics
84. List the indications of beta-2 adrenomimetics
85. Indicate the indication(s) of dobutamine
86. Indicate the indication(s) of dopamine
87. Select the drug(s) used in acute hypotension
88. Select the drug of choice in anaphylactic shock
89. Select the adrenergic drug(s) used in rhinitis
90. Select the beta-2 adrenomimetic(s) used in mild asthma attacks
91. Recognize the adverse reactions of alpha-beta adrenomimetics
92. Recognize the adverse reactions of alpha-adrenomimetics
93. Recognize the adverse reactions of beta-adrenomimetics

94. Identify the non-selective alpha-adrenoblocker(s)
95. Identify the alpha-1 adrenoblocker drugs
96. Identify the non-selective beta-adrenoblocker drugs
97. Identify the beta-1 adrenoblocker drugs
98. Identify the non-selective beta-adrenoblocker with a vasodilatory effect
99. Identify the selective beta-adrenoblocker with a vasodilatory effect
100. Identify the alpha-beta adrenoblocker drug(s)
101. Indicate the effects of beta-adrenoblockers
102. Indicate the clinical effects of beta-adrenoblockers
103. Specify the mechanisms of vasodilatory action of beta-adrenoblockers
104. Indicate the effects of non-selective alpha-adrenoblockers
105. Indicate the effects of alpha-1 adrenoblockers
106. List the indications of beta-adrenoblockers
107. Indicate the indication(s) of labetalol
108. List the indications of non-selective alpha-adrenoblockers
109. Indicate the indication(s) of alpha-1 adrenoblockers
110. Recognize the adverse reactions of non-selective beta-adrenoblockers
111. Recognize the adverse reactions of non-selective alpha-adrenoblockers
112. Recognize the adverse reactions of alpha-1 adrenoblockers
113. Identify the group(s) of dopaminoblockers
114. Identify the sympatholytic drug with a mixed action
115. Identify the centrally acting sympatholytic drug
116. Indicate the indication(s) of sympatholytics
117. Indicate the indication of methyldopa
118. Specify the difference between adrenoblockers and sympatholytics
119. Recognize the adverse reactions of sympatholytics
120. Specify the mechanisms of action of sympatholytics

Chemotherapeutic Agents

1. Identify the antibiotics that inhibit cell wall synthesis.
2. Identify the antibiotics that inhibit protein synthesis.
3. Identify the antibiotic that inhibits nucleic acid synthesis.
4. Identify the antibiotic(s) that disrupt cytoplasmic membrane permeability.
5. Select the antibiotics with predominant activity against Gram-positive flora.
6. Select the antibiotics with predominant activity against Gram-negative flora.
7. Identify the broad-spectrum antibiotics.
8. Identify the ultra-broad-spectrum antibiotics.
9. Identify the antibiotic(s) with an absolute bactericidal effect on microbes.
10. Identify the antibiotic(s) with a degenerative bactericidal effect on microbes.
11. Identify the antibiotics with a bacteriostatic effect on microbes.
12. Specify the mechanism responsible for the absolute bactericidal effect of antibiotics.
13. Specify the mechanism responsible for the degenerative bactericidal effect of antibiotics.
14. Specify the mechanism responsible for the bacteriostatic effect of antibiotics.
15. Recognize the characteristic adverse reactions of penicillins.
16. Select the second-generation cephalosporin(s) for enteral administration.
17. Specify the spectrum of activity of second-generation cephalosporins.
18. Select the third-generation cephalosporin(s) for enteral administration.
19. Specify the spectrum of activity of third-generation cephalosporins.
20. List the indications for fourth-generation cephalosporins.

21. List the indications for fifth-generation cephalosporins.
22. Recognize the characteristic adverse reactions of cephalosporins.
23. Identify the beta-lactamase inhibitors.
24. Specify the spectrum of activity of aminoglycosides (microbes).
25. Identify the third-generation aminoglycoside(s).
26. Specify the mechanism of action of aminoglycosides.
27. Recognize the adverse reactions of aminoglycosides.
28. Specify the spectrum of activity of macrolides (microbes).
29. Indicate the specific (drug of choice) indication for lincosamides.
30. Recognize the characteristic adverse reaction of lincosamides.
31. Specify the spectrum of activity of tetracyclines (microbes).
32. Recognize the characteristic adverse reactions of tetracyclines.
33. Recognize the adverse reactions of antibiotics from the amphenicol derivative group.
34. List the indications for glycopeptide antibiotics.
35. Recognize the characteristic adverse reactions of glycopeptide antibiotics.
36. Indicate the indication for colistin in children with cystic fibrosis.
37. Recognize the adverse reactions of polymyxins.
38. Specify the spectrum of activity of ansamycins (microbes).
39. Indicate the indication(s) of ansamycins.
40. Recognize the characteristic adverse reactions of ansamycins.
41. Specify the biochemical mechanisms of resistance.
42. Specify the genetic mechanisms of resistance.
43. Indicate the strategies to combat resistance.
44. Specify the mechanisms of action of antiseptics.
45. Indicate the effects of hydrogen peroxide.
46. Indicate the effects of antiseptics from the anionic detergent group.
47. Indicate the effects of antiseptics from the cationic detergent group.
48. Specify the antiseptic mechanism of action of chlorhexidine.
49. Indicate the antiseptic effects of iodine drugs.
50. Specify the mechanism(s) of action of hydrogen peroxide.
51. Specify the mechanism(s) of action of potassium permanganate.
52. Specify the mechanism of action of cationic detergents.
53. Specify the mechanism(s) of action of alcohols.
54. Identify the groups of antiseptics used for cavity washing in surgery.
55. Identify the groups of antiseptics used in halitosis.
56. Identify the systemic combined sulfonamide(s).
57. Specify the composition of combined systemic sulfonamides.
58. Specify the composition of azo compounds.
59. Specify the spectrum of activity of sulfonamides (microbes).
60. Specify the mechanisms of action of combined systemic sulfonamides.
61. Recognize the characteristic adverse reactions of sulfonamides.
62. Identify the systemic nitrofurantoin derivative(s).
63. Identify the intestinal nitrofurantoin derivative.
64. Specify the spectrum of activity of non-fluorinated quinolones.
65. Specify the spectrum of activity of fluoroquinolones.
66. Select the fluoroquinolone(s) used in tuberculosis.
67. Specify the mechanism(s) of action of fluoroquinolones.
68. Recognize the characteristic adverse reactions of fluoroquinolones.
69. Identify the nitroimidazole derivative(s).
70. Specify the spectrum of activity of nitroimidazole derivatives (microbes).
71. Specify the mechanism(s) of action of nitroimidazole derivatives.
72. Indicate the indication(s) for nitroimidazole derivatives.

73. Recognize the adverse reactions of nitroimidazole derivatives.
74. Identify the oxazolidinedione derivative(s).
75. Specify the spectrum of activity of oxazolidinediones (microbes).
76. Indicate the indication(s) for oxazolidinediones.
77. Identify, according to WHO, the antituberculous drugs used in drug-sensitive tuberculosis.
78. Identify, according to WHO, the antituberculous drugs used in group A drug-resistant tuberculosis.
79. Identify, according to WHO, the antituberculous drugs used in group B drug-resistant tuberculosis.
80. Specify the mechanisms of antituberculous drugs inhibiting cell wall synthesis.
81. Identify the antituberculous drugs that inhibit protein synthesis.
82. Specify the mechanisms of antituberculous drugs inhibiting RNA and DNA synthesis.
83. Identify the antituberculous drug that inhibits energy metabolism.
84. Recognize the adverse reactions of isoniazid.
85. Recognize the adverse reactions of ethambutol.
86. Recognize the adverse reactions of pyrazinamide.
87. Identify the first-line antileprosy drugs.
88. Specify the mechanisms of action of antileprosy drugs.
89. Identify the rapidly acting hematozootropic drugs used in malaria.
90. Identify the histozootropic drugs used in malaria.
91. Specify the mechanisms of action of antimalarial drugs.
92. Identify the antimalarial drugs used during malaria attacks.
93. Select the drug(s) used in amebiasis.
94. Select the drugs used in trichomoniasis.
95. Select the drugs used in giardiasis.
96. Identify the drug used in toxoplasmosis of pregnant women.
97. Specify the mechanisms of action of drugs used in toxoplasmosis.
98. Identify the drug(s) used in pneumocystosis.
99. Specify the mechanisms of action of drugs used in pneumocystosis.
100. Identify the drug(s) used in intestinal nematode infections.
101. Specify the mechanisms of action of drugs used in intestinal nematode infections.
102. Identify the drug(s) used in intestinal cestode infections.
103. Specify the mechanisms of action of drugs used in intestinal cestode infections.
104. Identify the drug(s) used in extra-intestinal helminth infections.
105. Specify the mechanisms of action of drugs used in extra-intestinal helminth infections.
106. Identify the drugs used in syphilis treatment.
107. Identify the antiviral drug(s) used in influenza A and B.
108. Specify the mechanisms of action of anti-influenza drugs.
109. List the indications for anti-influenza drugs.
110. Identify the anti-herpetic antiviral drugs.
111. Specify the mechanisms of action of anti-herpetic drugs.
112. Identify the antiretroviral drugs.
113. Specify the mechanisms of action of antiretrovirals.
114. Recognize the adverse reactions of antiretrovirals.
115. Identify the antiviral drugs used in hepatitis B.
116. Specify the mechanism of action of interferon.
117. Recognize the early adverse reactions of interferon drugs.
118. Identify the antiviral drugs used in hepatitis C.
119. Identify the antiviral drugs used in papillomavirus infections.
120. Identify the antiviral drugs used in cytomegalovirus infections.
121. Identify the antiviral drugs used in SARS-CoV-2 / COVID-19.
122. Identify the antifungal antibiotics.

123. Identify the imidazole derivatives as antifungals.
124. Identify the triazole derivatives as antifungals.
125. Identify the echinocandin derivatives as antifungals.
126. Specify the mechanism of action of antifungal antibiotics.
127. Recognize the adverse reactions of amphotericin B.
128. Specify the mechanism of action of imidazole and triazole derivatives.
129. Indicate the indication(s) of triazole derivatives.
130. Specify the mechanism of action of echinocandins.

Hormonal drugs

1. Specify the mechanisms of action of polypeptide-structured hormonal drugs.
2. Specify the mechanisms of action of steroid-structured hormonal drugs.
3. Specify the mechanisms of action of thyroid gland hormonal drugs.
4. Indicate the effects of thyroid gland hormonal drugs.
5. List the indications for thyroid gland hormonal drugs.
6. Specify the pharmacokinetic properties of levothyroxine.
7. Indicate the indication(s) for antithyroid thioamide drugs.
8. Indicate the indication(s) for iodine drugs as antithyroid agents.
9. Recognize the adverse reactions of antithyroid thioamide drugs.
10. Specify the pharmacokinetic properties of thiamazole.
11. Specify the antithyroid mechanism of action of beta-adrenoblockers.
12. Specify the mechanism(s) of action of iodine drugs as antithyroid agents.
13. Identify the oral antidiabetic(s) from the DPP-IV inhibitor group.
14. Identify the oral antidiabetic(s) from the GLP-1 receptor agonist group.
15. Identify the oral antidiabetic(s) from the sodium-glucose cotransporter 2 (SGLT2) inhibitor group.
16. Identify the human insulin drug(s) with ultra-rapid and ultra-short action.
17. Identify the insulin drug with a short duration of action.
18. Identify the insulin drug(s) with long and durable action.
19. Indicate the effects of insulin drugs on carbohydrate metabolism.
20. Specify the mechanisms of action of insulin drugs.
21. Recognize the adverse reactions of insulin drugs.
22. Recognize the manifestations of hypoglycemia caused by insulin drugs.
23. Indicate the absolute indications for insulin drugs.
24. Select the insulin drugs used in diabetic coma.
25. Select the drugs used in hypoglycemic coma.
26. Specify the mechanisms of action of biguanides.
27. Specify the characteristics of the hypoglycemic effect of biguanides.
28. Recognize the adverse reactions of biguanides.
29. Specify the mechanisms of action of DPP-IV inhibitors.
30. Specify the mechanisms of action of GLP-1 receptor agonists.
31. Specify the mechanism of action of tetrasaccharides.
32. Specify the mechanism of action of SGLT2 inhibitors.
33. Identify the glucocorticoids for topical administration.
34. Identify the glucocorticoids for intravenous administration.
35. Identify the glucocorticoids for intramuscular administration.
36. Specify the genomic mechanism of action of glucocorticoids.
37. Specify the non-genomic mechanism(s) of action of glucocorticoids.
38. Identify the glucocorticoid(s) with the most pronounced non-genomic mechanism.
39. Specify the characteristics of the antiallergic action of glucocorticoids.

40. Specify the characteristics of the anti-inflammatory action of glucocorticoids.
41. Specify the characteristics of the anti-shock action of glucocorticoids.
42. Indicate the effects of glucocorticoids on carbohydrate metabolism.
43. List the indications of glucocorticoids for pharmacodynamic purposes.
44. Recognize the adverse reactions of glucocorticoids.
45. Indicate the specific effects of estrogen drugs.
46. List the indications for estrogen drugs for substitution purposes.
47. Indicate the specific effects of progestative drugs.
48. Indicate the specific effects of androgens.
49. Identify the antiandrogen drugs.
50. Identify the antiestrogen drugs.

Anti-inflammatory and Antiallergic Drugs

1. Identify the nonsteroidal anti-inflammatory drug(s) – selective COX-2 inhibitors.
2. Identify the specific nonsteroidal anti-inflammatory drug(s) that inhibit COX-2.
3. Specify the mechanism(s) of anti-inflammatory action of NSAIDs.
4. Specify the mechanism of antipyretic action of NSAIDs.
5. Specify the mechanism(s) of analgesic action of NSAIDs.
6. Specify the mechanism(s) of the antiaggregant action of acetylsalicylic acid.
7. Specify the anti-inflammatory mechanisms of gold drugs.
8. Identify the anti-inflammatory agents with specific antirheumatic action.
9. Specify the anti-inflammatory mechanisms of aminoquinoline derivatives.
10. Specify the mechanisms of action of penicillamine.
11. Indicate the therapeutically useful effects of NSAIDs.
12. Indicate the therapeutically useful or undesirable effects of NSAIDs.
13. List the indications for NSAIDs.
14. Recognize the adverse reactions of NSAIDs.
15. List the indications for aminoquinoline derivatives.
16. List the indications for gold drugs.
17. List the indications for penicillamine.
18. Recognize the characteristic adverse reactions of salicylates.
19. Indicate the pharmacological effects of glucocorticoids.
20. Specify the mechanisms of action of steroidal anti-inflammatory drugs.
21. List the indications for steroidal anti-inflammatory drugs.
22. Recognize the adverse reactions of steroidal anti-inflammatory drugs.
23. Identify the competitive antagonists of allergy mediators.
24. Identify the functional antagonists of allergy mediators.
25. Identify the antiallergic drugs that prevent mediator release.
26. Identify the antiallergic drugs that reduce tissue damage.
27. Select the drugs used in anaphylactic shock.
28. Select the drugs used in acute bronchial asthma attacks.
29. Identify the H₁-antihistamine(s) of the second generation.
30. Identify the H₁-antihistamine(s) of the first generation.
31. Identify the H₁-antihistamine(s) of the third generation.
32. Indicate the effects of H₁-antihistamines.
33. List the indications for H₁-antihistamines as antiallergic agents.
34. List the indications for H₁-antihistamines for other purposes.
35. Recognize the adverse reactions of H₁-antihistamines.
36. Indicate the effects of epinephrine in anaphylactic shock.
37. Indicate the antiallergic effects of glucocorticoids.
38. List the indications for glucocorticoids as antiallergic drugs.

39. Specify the mechanism(s) of sedative–hypnotic action of H1-antihistamines.
40. Specify the mechanism of action of mast cell degranulation inhibitors.
41. Indicate the indication(s) of mast cell degranulation inhibitors.
42. Identify the immunomodulators of animal origin.
43. Identify the immunomodulators of bacterial origin.
44. Identify the immunomodulators with low molecular weight.
45. Specify the mechanisms of action of biologically derived immunomodulators.
46. Identify the drugs from the group of entomologic immunomodulators.
47. Specify the mechanisms of action of entomologic immunomodulators.
48. Indicate the indication(s) for antileukotriene drugs.
49. Specify the mechanisms of action of immunostimulants of animal origin.
50. Specify the mechanisms of action of synthetic immunostimulants.

Note:

The exam materials are based on the following bibliographic sources:

1. Pharmacology lectures.
2. Kharkevitch D.A., *Pharmacology*, CEP Medicina, Chişinău, 2017.
3. Ghicavîi V.I. et al., *Prescription Guide*, Chişinău, Medicina, 2021.
4. Tripathi K.D., *Essentials of Pharmacology*, 7th Edition, India, 2018.