

# I. General Pathology

1. Biopsy and cytology: techniques of obtaining tissue samples, various kinds of bioptical/cytological specimens incl. clinical implications, tissue processing, frozen sections
2. Histological methods, stainings, light and electron microscopy, histochemistry, immunohistochemistry, molecular pathology and other special techniques
3. Autopsy, its importance, the autopsy protocol and its parts
4. Disease and its causes
5. Death and postmortal changes
6. Necrosis - types, causes and further evolution. Apoptosis.
7. Atrophy - types, causes and further evolution. Hypoplasia.
8. Congenital disorders of differentiation and morphogenesis
9. Inborn and acquired disorders of protein, carbohydrate and lipid metabolism
10. Amyloidosis
11. Pathology of pigments and pigmentations
12. Icterus
13. Pathological calcifications, stones
14. Pathology of nutrition
15. Hypertrophy, hyperplasia
16. Regeneration, repair
17. Metaplasia, dysplasia
18. Edema
19. Hyperemia, venous congestion
20. Focal disorders of blood supply, ischemia, infarction
21. Haemorrhage
22. Thrombosis incl. DIC
23. Embolisation, metastasis
24. Shock
25. Heart failure - types, causes, complications
26. Causes of inflammation
27. Pathophysiology of inflammation
28. Inflammation - microscopic and macroscopic changes
29. Classification and morphologic patterns of inflammation
30. Specific granulomatous inflammation and its examples (leprosy, sarcoidosis, rhinoscleroma, etc.)
31. Tuberculosis: general morphology, preimmune type
32. Tuberculosis: organ tuberculosis of adult type
33. Syphilis
34. Immune system and its functions
35. Immune reactions
36. Autoimmune diseases
37. Transplantation
38. Primary and secondary immunodeficiency
39. HIV, AIDS
40. Mechanisms of bacteria and virus-induced injury
41. Bacteriemia, sepsis, pyemia
42. Skin infections
43. Respiratory system infections
44. Gastrointestinal system infections
45. Genitourinary system infections
46. Nervous system infections
47. Staphylococcal infections
48. Streptococcal infections
49. Infectious hepatitis
50. Environmental pollution
51. Injury by physical agents
52. Injury by chemical agents
53. Ageing and death

## II. Oncology

1. Definitions, preneoplastic lesions, pseudotumors
2. Classifications of tumors
3. Structure, growth of tumors
4. Invasion and metastases
5. Characteristics of benign and malignant tumors
6. Intraepithelial neoplasia, carcinoma in situ
7. Carcinogenesis, etiology of tumors
8. Effects of tumor on host
9. Grading and staging of tumors, tumor prognosis
10. Fibroma, myxoma, lipoma, angioma (+ sarcomas)
11. Chondroma, chordoma, osteoma (+sarcomas)
12. Leiomyoma, leiomyosarcoma, rhabdomyoma, rhabdomyosarcoma
13. Neoplastic disorders of bone marrow
14. Hodgkin's lymphoma
15. Non-Hodgkin's lymphomas
16. Tumors of the squamous stratified epithelium
17. Tumors of the transitional epithelium
18. Benign tumors of the glandular epithelium
19. Malignant tumors of the glandular epithelium
20. Neuroendocrine tumors
21. Neuroectodermal tumors of the CNS
22. Tumors of the meninges and peripheral nervous system
23. Tumors of melanocytes
24. Mixed tumors, germinal tumors
25. Choriocarcinoma, mesothelioma
26. Tumors of the heart and vessels
27. Tumors of the lymph nodes
28. Tumors of the upper respiratory tract
29. Bronchopulmonary tumors
30. Tumors of the oral cavity, incl. salivary glands and odontogenic tumors
31. Tumors of the esophagus and stomach
32. Neoplasms of the small and large intestine
33. Tumors of the liver, biliary tract and pancreas
34. Tumors of the kidney and urinary tract
35. Testicular tumors
36. Tumors of the prostate and penis
37. Vulvar, vaginal and cervical tumors
38. Tumors of the endometrium and myometrium
39. Tumors of the ovary
40. Tumors of the breast
41. Intracranial tumors
42. Tumors of the endocrine system
43. Tumors of the musculoskeletal system
44. Skin tumors and pseudotumorous lesions

### III. Systematic Pathology

1. Congenital heart disease
2. Pericardial disease
3. Endocarditis
4. Acquired valvular heart disease
5. Myocarditis, cardiomyopathy, heart transplantation
6. Ischemic heart disease – acute coronary syndromes
7. Chronic ischemic heart disease
8. Hypertension
9. Atherosclerosis and other arterial regressive changes
10. Vascular inflammatory diseases
11. Aneurysms
12. Pathology of the veins and lymphatic vessels
13. Posthemorrhagic and hemolytic anemia
14. Anemias of diminished erythropoiesis, polycythemia
15. Disorders of blood coagulation and haemostasis
16. Pathology of the spleen
17. Nonneoplastic lymphadenopathy
18. Pathology of the thymus
19. Pathology of the nose and paranasal cavities
20. Pathology of the larynx and trachea
21. Pediatric respiratory tract diseases
22. Bronchiectasis, localised obstructive airways disease
23. COPD. Emphysema. Lung collapse.
24. Bronchitis – acute, chronic. Asthma
25. Venous congestion and pulmonary edema
26. Pulmonary embolism
27. Pulmonary hypertension
28. Acute and chronic interstitial lung diseases
29. Classification of pulmonary infections incl. bronchiolitis, lobar pneumonia
30. Bronchopneumonia
31. Primary atypical (interstitial) pneumonias incl. non-infective, fungal infections
32. Pulmonary tuberculosis
33. Pathology of pleura
34. Diseases of the oral cavity incl. teeth
35. Pathology of salivary glands
36. Pathology of the esophagus
37. Gastritis
38. Peptic ulcers
39. Intestinal developmental disorders, diverticulosis
40. Intestinal vascular disorders, obstructive GIT disease, ileus
41. Inflammatory bowel disease
42. Acute enteritis, appendicitis, colitis incl. infections
43. Malabsorption
44. Pathology of the peritoneum, hernias
45. Liver: metabolism of the bilirubin, jaundice, hepatic failure
46. Hereditary metabolic disorders (hemochromatosis, Wilson's disease, alpha-1-antitrypsin deficiency), pediatric liver disease
47. Circulatory disorders of the liver, liver in systemic diseases
48. Chronic hepatitis incl. viral
49. Drug- and toxin-induced liver disease
50. Liver cirrhosis, liver transplantation
51. Autoimmune liver and biliary tract diseases
52. Cholangitis and liver abscess
53. Cholecystitis, cholelithiasis, cholesterosis
54. Congenital disorders of exocrine pancreas, cystic fibrosis

55. Acute and chronic pancreatitis
56. Kidney – congenital diseases, renal cysts
57. Blood supply disorders of the kidney
58. Glomerular diseases, pathogenesis and classification
59. Glomerular diseases with nephritic syndrome
60. Glomerular diseases with proteinuria and nephrotic syndrome
61. Pyelonephritis
62. Acute tubular necrosis, renal failure, renal transplantation
63. Hydronephrosis, renal stones, metabolic nephropathy
64. Pathology of the renal pelvis, ureter and urinary bladder
65. Pathology of the penis, scrotum and prostate
66. Pathology of the testis, epididymis and cord. Male infertility.
67. Pathology of the vulva and vagina
68. Pathology of the cervix uteri, endometritis, adenomyosis
69. Causes of dysfunctional uterine bleeding, endometrial hyperplasia
70. Pathology of Fallopian tubes and ovaries incl. ectopic pregnancy
71. Pathology of the intrauterine pregnancy
72. Inflammatory and proliferative conditions of the breast
73. Congenital abnormalities of the CNS, hydrocephalus
74. Intracranial nontraumatic hemorrhage. Intracranial hypertension, cerebral edema
75. Intracranial trauma
76. Cerebrovascular hypoxic/ischemic disease
77. Demyelinating conditions. Epilepsy.
78. Meningitis
79. Brain infections incl. encephalitis, prion diseases
80. Metabolic disorders. Degenerative diseases - classification, motor neurone and Parkinson's disease
81. Dementias incl. Alzheimer's disease
82. Pathology of the pituitary
83. Pathology of the thyroid gland
84. Pathology of the parathyroid glands
85. Pathology of the endocrine pancreas, diabetes mellitus
86. Pathology of the adrenal glands
87. Peripheral nervous system pathology. Skeletal muscle pathology
88. Hereditary and metabolic diseases of the osteoarticular system
89. Osteomyelitis, bone tuberculosis, m. Paget, fibrous dysplasia, hypertrophic osteoarthropathy. Fractures.
90. Osteoarthritis, suppurative arthritis, rheumatoid disease, spondyloarthropathias
91. Pathology of the eye and ear
92. Infections and non-infectious inflammatory lesions of the skin
93. Bullous skin disorders. Adnexal, vascular lesions of the skin
94. Pathology of the connective tissues